
**‘Phalaborwa where the hammer is heard’: crafting together the
political economy of Iron Age communities in southern Africa,
AD 900-1900**



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Thesis presented for the Degree of Doctor of Philosophy in the Department of Archaeology

UNIVERSITY OF CAPE TOWN

DECEMBER 2016

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Abstract

In Africa and elsewhere, producers form a critical dimension to archaeological reconstructions of the political economy. However, few studies address the relationship between producers and the political economy from the vantage point of production sites. This study addresses the position of metal producers in the regional political economy of Iron Age (AD 200 – 1900) communities in southern Africa through an in-depth analysis of one production locale, Shankare. Shankare is a production and habitation site located in close proximity to the Lolwe mineral body in Phalaborwa. Studying the organisation of production, identity of producers, mechanisms of exchange and evidence of consumption at Shankare provided an important platform to assess producers in the context of the domestic and regional economy. Research at Shankare and surrounding sites revealed that production was characterised by a community of homestead based producers located in proximity to the ore source. Metal production took place in domestic contexts in conjunction with other activities, and with clear evidence of scheduling and cross-crafting overlaps. Producers acted independently and were well connected within a regional exchange system that facilitated the flow of local products and imported items such as glass beads and cowrie shells (*Cypraea annulus*). The study of producers at Shankare indicates the presence of a decentralised political economy resulting in a high degree of autonomy of producers and consumers in the region. Comparisons between the organisation of metal production at Shankare through time indicate that in both occupational periods, AD 900-1300 and AD 1700-1900, production strategies were contextually negotiated, with no clear correlation between political centralisation and specialised production. This research challenges existing models of control and the enactment of power in the political economy of the Iron Age. It has further potential implications for reconsidering the parameters for identifying power relations utilised in global archaeological theory.

Acknowledgments

I would like to acknowledge a number of individuals and institutions that have made this research possible. Funding for my studies was provided through a grant-holder linked National Research Foundation (NRF) bursary facilitated by Associate Professor Shadreck Chirikure. Additional funding from the Erasmus-Mundus Association allowed me to spend five months at K.U. Leuven in Belgium from which I greatly benefited.

Access to Shankare for fieldwork was granted by the Palabora Mining Company. Special thanks to Tim Paxton and the heritage officers Johannes Malatji, Adam Mhlongo, Thembanani and Mandla who facilitated our research at Shankare and also contributed towards our understanding of the site. Guy Thomas, Ndesihala De Almeida, Michelle House, Liesl Ward, John Noble, Thokozani Zulu, Foreman Bandama and Louisa Hutten kindly participated in field work at Shankare. From rogue elephant visitors on site to experimental mopani worm dinners, there was never a dull moment!

To my colleagues and friends in the archaeology department, Delores Jacobs, Lynn Cable, Louisa Hutten, Michelle House, Robert Nyamushosho, Tawanda Mukwende, Pauline Tapfuma and Ashley Coutu, thank you for your support and help with this research. I drew a lot of comfort and strength from having caring friends with whom to share the daily challenges (and triumphs) of research with. Delores Jacobs assisted with the cleaning and labelling of ceramics from Shankare. Michelle House analysed all the fauna from Shankare. A special thanks go to Dr. Foreman Bandama for your guidance and friendship throughout my post-graduate studies. From learning the basics of Adobe Illustrator to the mechanics of polishing metallurgical samples, you have always been willing and helpful. Thank you to Mrs. Miranda Waldron of the Electron Microscope Unit for providing assistance with SEM analysis. Thomas Slingsby and Nicholas Lindenberg from the Geospatial Unit and Guy Thomas provided helpful assistance with mapping.

I am deeply grateful to the teachers and mentors that have inspired and supported my journey in African history and archaeology. In particular I would like to acknowledge Shamil Jeppie, Maanda Mulaudzi, Antonia Malan, Per Ditlef Fredriksen, Tim Maggs and Judith Sealy. Saarah Jappie, Susana Molins-Literas and Ashley Coutu have also been both kind and supportive friends and mentors.

I have benefitted greatly from the dedicated supervision of Associate Professor Shadreck Chirikure. Your willingness to engage with new ideas, encouragement to think critically and incredible energy and enthusiasm for the discipline has been invaluable and inspirational. I am similarly deeply indebted to the guidance and supervision of Associate Professor Simon Hall. From an initial introduction into Iron Age archaeology in your third year class through to the many lengthy discussions we have had over the years, you have greatly enriched my understanding of archaeology.

Growing up as an often liminal newcomer in different countries has no doubt influenced my academic trajectory. To the many people that have taught and shaped me along the way, thank you. To my loving friends and family, thank you all for supporting me (and my absence

of late!) throughout this journey. Bee, Steph and Rach, you have not only been the greatest of sisters but very supportive friends. Ian, thank you for your constant support and for sharing so much of this journey with me. Finally to my parents, Marianne and Mark Moffett, who nurtured in me a curiosity for the past, provided unfailing support and encouragement throughout my education and who continue to inspire me with their own lives. My deepest thanks cannot express my gratitude mom and dad, this certainly would not have been possible without you both!

Table of Contents

Abstract	i
Acknowledgments	ii
Table of Contents	iv
List of Figures	ix
List of Tables	xii
Chapter One:	1
Introduction to metal production in the political economy of southern African Iron Age communities	1
1.1 Introduction	1
1.2 Metals and the Iron Age political economy of southern Africa	4
1.3 Phalaborwa as a locus of metal production	7
1.4 Research aims	9
1.5 Outline of thesis chapters	11
Chapter Two:	13
From global to local: theoretical approaches to political economy	13
2.1 Introduction to chapter	13
2.2 Introduction to the political economy of southern Africa	14
2.3 A review of influential theory in archaeological approaches to political economy	18
2.4 A critique of current approaches to the study of the political economy of complex societies	21
2.5 Dominant approaches to complexity and the political economy of the southern African Iron Age	26
2.6 Limitation of current understandings of the political economy of the southern African Iron Age	29
2.7 Crafting the political economy: new directions	33
2.8 Conclusion	41
Chapter Three:	42
Phalaborwa, where the hammer is heard: the political economy of the 18th- and 19th-century South African Lowveld	42
3.1 Introduction to chapter	42
3.2 The Lowveld in the 18th and 19th-century: general polities and setting	43
3.3 Resource distribution: control, supply and demand	47
3.4 Exchange and consumption within the context of local, regional, and global interaction spheres	55
3.5 Discussion: negotiating historical crafting identities in the Lowveld	67

3.6	Conclusion	76
Chapter Four:.....		79
Background to the archaeology of Phalaborwa		79
4.1	Introduction to chapter.....	79
4.2	Location and environmental setting.....	79
4.3	Geology.....	83
4.4	Chronological sequence and the known sites in Phalaborwa and the surrounds	84
4.4.1	Early Iron Age sites.....	85
4.4.2	Late Iron Age sites.....	90
4.5	Metal production in the archaeological sequence.....	94
4.6	Archaeometallurgy of Phalaborwa	95
4.7	Archaeological evidence of resource exploitation in the Lowveld.....	96
4.8	Sites with a long occupational chronology: Kgopolwe, Nagome and Shankare	97
4.9	Summary and research gaps	100
Chapter Five:.....		102
Fieldwork at Shankare		102
5.1	Introduction to chapter.....	102
5.2	Survey and mapping.....	102
5.3	Excavation areas.....	107
5.3.1	Midden 1	107
5.3.2	Hut floor	111
5.3.3	Burrow Pit	114
5.3.4	Test Pits.....	116
5.3.5	Terrace 1 and Terrace 2	120
5.4	The dating of Shankare	121
5.5	Discussion and conclusion.....	123
Chapter Six:.....		126
Identifying style, identity and regional interaction through ceramic analyses		126
6.1	Introduction to chapter.....	126
6.2	Ceramic theory and methodology	127
6.3	Shankare ceramics: methodology.....	129
6.4	Typological criteria	130
6.4.1	Profiles	130
6.4.2	Decoration placement	135
6.4.3	Decoration motifs	136
6.5	Creation of classes.....	140

6.6	Intra-site comparisons: towards the identity of Shankare's occupants.....	147
6.6.1	Letaba ceramics: terrace excavations.....	147
6.6.2	Kgopolwe assemblages at Shankare: Midden 1, Burrow Pit, Hut Floor and Test Pit 1... 148	148
6.7	Inter-site comparisons	153
6.7.1	Comparisons between Kgopolwe assemblages at Shankare	153
6.7.2	Comparison between Letaba and Kgopolwe assemblages.....	154
6.8	Discussion	155
6.9	Conclusion	160
Chapter Seven:		161
From the hammer to the anvil and beyond: the organisation of metal production at Shankare... 161		161
7.1	Introduction.....	161
7.2	Description of metal production remains at Shankare.....	162
7.2.1	Ores	163
7.2.2	Slags (smelting and smithing)	164
7.2.3	Technical ceramics (tuyères and furnace-wall fragments)	165
7.2.4	Technical ceramics (crucibles)	167
7.2.5	Copper prills	168
7.2.6	Finished objects	169
7.3	Distribution and density of metal production at Shankare	171
7.4	Archaeometallurgical theory and approach.....	178
7.5	Archaeometallurgical results	180
7.5.1	Ores	180
7.5.2	Slags	181
7.5.3	Tuyères.....	183
7.5.4	Furnace wall	184
7.5.5	Crucibles.....	185
7.5.6	Domestic ceramics	185
7.6	Discussion	189
7.7	Conclusion.....	193
Chapter Eight:		194
Complementary crafting, cotton and shell beads at Shankare		194
8.1	Introduction.....	194
8.2	Shankare spindle whorls	195
8.3	The history and archaeology of cotton production in southern Africa	197
8.4	Organisation of production.....	199
8.5	Imported cloth.....	200

8.6	Uses and values of cloth.....	202
8.7	Archaeological implications of the Shankare spindle whorl sample.....	203
8.8	Faunal remains and food procurement strategies.....	205
8.9	Shell processing and bead making at Shankare	206
8.10	Shell beads from Shankare	209
8.11	Evidence of manufacture	210
8.12	Summary and conclusion	213
Chapter Nine:.....		215
Interaction, exchange and consumption of glass beads.....		215
9.1	Introduction.....	215
9.2	Background to the history and interpretation of glass beads in the southern African Iron Age	216
9.3	Bead analysis: method and recorded attributes.....	218
9.4	Bead analysis: results	220
9.4.1	Shankare Midden 1	221
9.4.2	Shankare Terraces.....	225
9.4.3	Shankare Hut Floor	228
9.5	Discussion: 10th–13th-century Shankare bead assemblage	230
9.6	Terrace period beads and the historical context of beads in southern Africa	234
9.7	Conclusion	236
Chapter Ten:		238
Stringing cowries together at Shankare		238
10.1	Introduction to cowries in the Iron Age	238
10.2	Identification of specimens.....	239
10.3	Shankare cowrie sample	241
10.4	Comparison with other sites in this period	246
10.5	Contextualising cowries in the Iron Age: Historical evidence of the production, exchange and consumption of cowrie shells	248
10.6	Discussion	256
10.7	Conclusion	258
Chapter Eleven:		259
Discussion		259
11.1	Introduction to chapter	259
11.2	Shankare craft production	260
11.3	Phalaborwa and metal production in the archaeological period	265
11.4	Shankare within the context of regional connections	268

11.5	Discussion: Power and control over resources in the southern African Iron Age	275
11.6	Conclusions and future directions	281
	References	284
	Appendix 1: Calibrated radiocarbon dates from Phalaborwa	326
	Appendix 2: Fauna from Shankare excavations	327

List of Figures

Figure 1.1 Map of southern Africa showing some of the key sites mentioned in the text, and some of the known copper resources exploited by Iron Age communities.	7
Figure 2.1 The Indian Ocean and southern African interior, with some of the sites mentioned in Chapter 2.....	16
Figure 3.1 The Lowveld setting and some of the sites mentioned in the text	46
Figure 3.2 Musuku (left), diamond-shaped hoe (centre) and lerale (right) (Scale in cm)	56
Figure 3.3 Approximate distribution of different metals produced in the Lowveld.....	57
Figure 3.4 Some of the well-known footpaths that linked different regions of the Lowveld and adjacent areas.....	60
Figure 4.1. Location of research area and site complexes defined by Pistorius (1989). Map adapted from Plug and Pistorius (1999) and Miller et al. (2001).....	80
Figure 4.2 View from Shankare Hill looking eastward. Note the distinct syenite kopjes on the horizon.	82
Figure. 4.3 Archaeological sequence of the Lowveld and Phalaborwa area.	86
Fig 4.4 Map showing the location of sites in Phalaborwa and the adjacent Kruger National Park.....	87
Figure.4.5 Existing radiocarbon dates for sites in Phalaborwa. Generated by OxCal v4.2.4 (Bronk Ramsey 2013) using the southern hemisphere atmospheric curve (Hogg et al. 2013).....	89
Figure 4.6 One of two small crucibles recovered by Pistorius (1989:404).	99
Figure 5.1 View of Shankare Hill from the northeast	103
Figure 5.2 Google Earth image showing Shankare Hill in relation to the immediate surroundings, including the PMC tailing dump to the north and Shankare 3 to the west	103
Figure 5.3 A map of Shankare showing the distribution of cultural material and the location of excavations and identified activity areas.....	105
Figure 5.4 1: lower grinding stone, 2 and 3: worked stones.....	106
Figure 5.5 Large boulder on the northern slopes of Shankare hill, with grinding grooves and dolly holes.....	106
Figure 5.6 Northeast (above) and northwest (below) sections of Midden 1. The unexcavated deposit (depicted in the northeast section) lay below the burial	108
Figure 5.7 Excavated features in Midden 1. A prepared floor (on the left) and a complete vessel buried and deliberately broken in the base (on the right).	111
Figure 5.8 Plan of the hut-floor-related excavation areas (above) and the northwest section of the Hut Floor excavation.....	113
Figure 5.9 View of the eastern section of the Burrow Pit, with Shankare Hill in the background.	114
Figure 5.10 Northern (top) and eastern (bottom) sections of the Burrow Pit excavation area.....	115
Figure 5.11 North section of Test Pit 1	117
Fig 5.12 Plan and south-eastern section of Test Pit 2, and eastern and southern sections of Test Pits 3 and 4 respectively	118

Figure 5.13 View from Terrace 2 down to Terrace 1 (left), and the single ashy stratigraphic unit of Terrace 2 (right).	121
Figure 5.14 Selected radiocarbon dates from Shankare. Generated by OxCal v4.2.4 (Bronk Ramsey 2013) using the southern hemisphere atmospheric curve (Hogg et al. 2013)	123
Figure 6.1 The distribution of diagnostic ceramic sherds across excavation units at Shankare.	130
Figure 6.2 Vessel profiles and decoration placements for Shankare ceramics. Note the designation of position 1, 2 and 3.....	132
Figure 6.3 Decorated vessel profiles from Shankare.	134
Figure 6.4 Undecorated vessel profiles from Shankare.....	135
Figure 6.5 Motifs found on ceramic vessels from Shankare.....	138
Figure 6.6 Selected ceramics from terrace excavations	148
Figure 6.7 Selected jars from Midden 1.....	149
Figure 6.8 Selected bowls from Midden 1	150
Figure 6.9 Selected ceramics from the Burrow Pit	151
Figure 6.10 Selected ceramics from the Hut Floor ash midden.....	152
Figure 6.11 Selected ceramics from Test Pit 1	153
Figure 6.12 The distribution of ceramic facies discussed in the text.....	157
Figure 7.1 A range of ore samples from Midden 1 and the Hut Floor midden.....	163
Figure 7.2 1: Crushed slag with visible cuperous prills, Midden 1. 2: Furnace slag with charcoal impressions, Test Pit 1	165
Figure 7.3 Furnace wall fragments from Test Pit 1 and the Burrow Pit above ash midden	166
Figure 7.4 The distal end of a tuyère, Midden 1 (left) and slagged tuyère fragments, Midden 1 (right)	166
Figure 7.5 A selection of crucibles from Shankare.....	168
Figure 7.6 A selection of copper prills and finished metal items from Shankare.	170
Figure 7.7 Map showing the distribution of copper and iron working areas at Shankare.	172
Figure 7.8 Large slagged ceramic conglomerates visible in the section and surface of Test Pit 1	176
Figure 7.9 Photomicrographs showing two potential ore samples, ShaOre3 from Test Pit 1 (1) and ShaOre2 from the Burrow Pit ash midden (2)	181
Figure 7.10 A selection of photomicrographs showing the different phases present in copper smelting slags.....	182
Figure 7.11 Photomicrographs of two tuyère fragments from Test Pit 1 level 4 (1) and the Burrow Pit ash midden (2)	183
Figure 7.12 Photomicrographs of two furnace-wall fragments.....	184
Figure 7.13 SEM images of crucibles and domestic pottery from Shankare	186
Figure 8.1 Spindle whorls from Shankare	196
Figure 8.2 A semi-complete spindle whorl made up of samples SHA.CD.2 and SHA.CD.4.....	196
Figure 8.3 Wild cotton (<i>Gossypium</i> sp.) growing on Shankare Hill.....	198

Figure 8.4 A spindle whorl, from Davison (1984:62)	200
Figure 8.5 An achatina shell (far left) and freshwater mussel shells (the three on the right) from Shankare	208
Figure 8.6 Tools used by a potter in Giyani, 80km north of Phalaborwa. Note the freshwater mussel shell on top of a recycled piece of pottery	208
Figure 8.7 The types of shell beads identified from Shankare.....	210
Figure 8.8 Ostrich eggshell beads and possible bead blanks found in Shankare Midden 1	211
Figure 9.1 Shape categories of glass beads, taken from Wood (2005: 31)	210
Figure 9.2 Colour ranges of glass beads represented in Midden 1 (n=202)	222
Figure 9.3 Size ranges of glass beads from Midden 1. Due to the corrosion of some beads, not all beads could be given a size category.....	222
Figure 9.4 Selection of glass beads from Shankare Midden 1, showing examples of turquoise beads, devitrified black oblates, red-brown cylinders and oblates, and a large yellow bead.	223
Figure 9.5 Colour ranges of glass beads represented in Terrace 1 and 2 (n=113)	226
Figure 9.6 Size ranges of glass beads from Terrace 1 and 2	226
Figure 9.7 Selection of glass beads from the Shankare Terrace excavations	227
Figure 9.8 Colour ranges of glass beads represented in the Hut Floor excavation area(n=12).....	229
Figure 9.9 Size ranges of glass beads from the Hut Floor excavation area.	229
Figure 9.10 Glass beads from the Shankare Hut Floor excavation area. A large blue bead (top right) is typical of 19th-century collections. Black oblates, a large yellow bead and red-brown cylinders are typical of the Mapungubwe series.....	230
Figure 10.1 The dorsal and ventral surface of <i>Cypraea annulus</i>	241
Figure 10.2 Micrographs of a selection of cowries showing different evidence of use-wear (1-12) .	243
Figure 10.3 Micrographs of the anterior and posterior canals of cowries, showing evidence of smoothing and abrasion	244
Figure 10.4 Micrographs of two samples, SHAM1.CS.12 and SHAT2.CS.1	245
Figure 10.5 Depiction of a divination set in the interpretation of a sick mother. Junod 1927 Part II: 557.	252
Figure 10.6 Cowries strung onto a basket.	255
Figure 11.1 The distribution of some of the mineral resources mentioned in the text.....	277

List of Tables

Table 4.1 Known sites in Phalaborwa, and associated ceramics and cultural affiliation	92
Table 5.1 Size and volume of excavation areas at Shankare.....	121
Table 5.2 Radiocarbon dates from Shankare.....	122
Table 6.1 Vessel profiles from Shankare.....	131
Table 6.2 The distribution of vessel profiles from Shankare	133
Table 6.3 The distribution of decoration motifs from Shankare	139
Table 6.4 Types of classes identified from Shankare.....	141
Table 6.5 The distribution of the 17 identified classes from Shankare. Red represents incomplete vessels.	146
Table 6.6 Showing presence/absence score of ceramic collections from Toutswe (TO), Mapungubwe (MAP), Kgopolwe (KGOP), Nagome (NAG), Moritsane (MOR), Bambo Hill (BAM), Eiland Saltworks 1 (E1), Eiland Saltworks 2 (E2) and Eiland Saltworks 3 (E3).	158
Table 7.1 Distribution of metal production remains and finished objects from Shankare	173
Table 7.2 Table showing the weight distribution of ores, slags and slagged ceramics (not including crucibles) from Shankare. Other slag is undiagnostic (SHAT1&2), highly ferrous (SHABP_above and SHATP1, L6) or flow slag (SHATP1, L1) (weight in grams).....	175
Table 7.3 Metallic objects recovered from Shankare.	177
Table 7.4: Average SEM-EDS results (of three area scans) of Shankare crucible, furnace wall and ceramic fragments. Results in wt% and normalised to 100%.....	187
Table 8.1 Spindle whorls from Shankare	195
Table 8.2 The distribution of shell finds from Shankare	207
Table 8.3 Shell bead categories from Shankare.....	209
Table 9.1 Glass bead series for the southern African Iron Age. Adapted from Wood (2005, 2009, and 2012) and Robertshaw et al. (2010).	217
Table 9.2 Size categories of glass beads, after Wood (2005: 34).	220
Table 9.3 Glass bead frequency per unit volume, m ³ (taken from Woods 2012: 39, and Antonites 2012: 190). Volume for Shankare calculated on all Kgopolwe phase excavation areas, excluding Test Pits 2, 3 and 4.....	233
Table 10.1 Shankare cowrie (<i>Cypraeidae</i>) samples.	240
Table 11.1 Summary of elements of specialisation in the historical period in the Lowveld.	265

Chapter One:

Introduction to metal production in the political economy of southern African Iron Age communities

“Political economy begins with commodities, with the moment when products are exchanged, either by individuals or by primitive communities.” (Engels 1859: 226)

1.1 Introduction

The political economy of past societies remains a topical focus of archaeological research (Stein 1998; D'Altroy and Hastorf 2001; Smith 2004; Morehart and De Lucia 2015). Within a broad rubric, studies of the political economy provide a frame of enquiry into the mechanisms of power and economy in the past (Roseberry 1989; Cobb 1993; Hirth 1996). Key issues that have been addressed are the organisation of production; exchange and consumption; the transfer of value; the construction of wealth; the dynamics of resource control; and the creation, acceptance and resistance of power (Preucel and Hodder 1996; Earle 2002; Yoffee 2005).

Technology, including metallurgy, has been critical in shaping global history (Craddock 1995; Knapp 1993; Killick and Fenn 2012; Chirikure 2015). From their inception—under the hammer of the miner, in the furnace of the smelter, or via the anvil of the smith—metal objects have interacted with, constituted, and contributed to the worldviews within which they exist. In each technological step, each use-life as a bloom, a bangle or a reworked hoe, metals are embedded in a web of beliefs, worldviews, social hierarchies, and political and economic values that shape and are shaped by them. Through these interactions, metals inform the political economy on a local, regional and global scale.

Studies of the organisational relationships and social contexts of technology and production are central in understanding the organisation of communities in different periods of the past

(Binford 1983; Dobres and Hoffman 1994; Gibson et al. 1994; Ambrose 2001). The development of socio-economic behaviours, such as the generation of surplus through specialised production, is considered a key step in the emergence of social differentiation and inequality. This step, in turn, is widely seen as an essential component of the development of complex economic and political systems such as the state—a view largely influenced by both neo-evolutionary theory and Marxist economic anthropology (Renfrew and Shennan 1982; Arnold 1995; Price and Feinman 1995, 2010; Earle 1996).

Control over production, exchange and consumption has been a central focus of research into the political economy of societies in the archaeological past (Wright and Johnson 1975; Brumfiel and Earle 1987; Friedman and Rowlands 1977; Earle 1996, 2002; Marcus 2008; Flannery and Marcus 2012). A number of key factors relating to the political economy of state systems—namely, trade, innovation, and specialisation—are often correlated with one another and with increased political stratification. In the context of the development of increased socio-political complexity, production is further addressed in relation to the political strategies used by elites to gain control over resources and persons (Friedman and Rowlands 1977; Blanton and Feinman 1984; Brumfiel and Earle 1987; Johnson and Earle 2000; Earle 2002).

Specialisation in metal production has been widely considered within the context of the emergence of socio-political complexity, both in the southern African context and elsewhere (Knapp 1993; Hayden 1998; Peregrine 1992; Calabrese 2000; Chirikure 2007). In some instances, metallurgy clearly contributed to state formation, both through control over metal resources and through ideological manipulation of metalworkers' symbolic powers (de Maret 1985; Tamari 1991; Reid and MacLean 1995; Holl 2000). Tensions regarding the control of metal resources have been studied in relation to changes in the organisation of production, particularly as a result of rulers seeking ways to restrict artisans' power (Childs and Killick 1992; De Barros 2000; Hauptmann 2007). Researchers have further emphasised the ability of materials such as metals not only to embody power but also to create and maintain it (Bisson 2000; Earle 2002; DeMarrais 2004).

This interest in the relationship between metallurgy and socio-political complexity in the archaeological past has provided important analytic dimensions for accessing the social context of metals within complex societies. However, the framework through which the

political economy has been addressed in the study of past societies, a topic discussed more fully in Chapter 2, has largely focused on the power strategies and consumption patterns of elites, and is drawn from research conducted primarily at centres of political power (McGuire 1983; Stein 1998; Yoffee 2005). Recent shifts in archaeological approaches to the study of the political economy in both “Old World” and “New World” states reflect a need to consider the mechanisms of the economy more critically, from different vantage points and using multiple scales (Smith 2004; Smith and Schreiber 2005; Stahl 2004; Richard 2009). Renewed emphasis has been placed on the identity of producers and consumers from different regions and social standings, and on the interaction between core-periphery, rural-urban, and elite-commoner (Stein 1998; Stahl 2004; LaViolette and Fleisher 2005; Oka and Kusimba 2008).

This shift in analytic framework has revealed the often heterogeneous and variable manifestations of power relations in the political economy of complex societies (Crumley 1995; Guyer 1995; McIntosh 1999). Indeed, broad models drawn from social evolutionary theory distort, and may at times fail to adequately capture, this variability. This research has in turn facilitated a recognition of the need to locate processes of social change within historicist, empirically derived models drawn from a local context (McIntosh 1999; Richard 1999; Connah 2001; Stahl 2004; Monroe 2013).

Extending this idea, new directions in the study of political economy emphasise the need to focus on the reconstruction of resource strategies in time and space (Cobb 1993; Hirth 1996; Smith 2004; Costin 2005). Studies of producers (or “crafters”,¹ cf. Costin 2005) and production in contexts not conventionally associated with political power are an important avenue for exploring the mechanisms of the political economy from a different vantage point, and for addressing the ways in which craft-producers were organised and embedded within social structures and processes (Costin 2001; Sinopoli 2003; McIntosh 2005; DeMarrais 2013). Current approaches in the study of craft production emphasise the importance of conceiving of craft production as an integrated system (Costin 2001, 2005, 2015; Hagstrum 2001; Hirth 2009; Sinopoli 2003). This process requires a critical interrogation of artisans, the domestic economy, the means of production, the organisation

¹ The use of the term craft in this thesis follows that of Costin (2005). Broadly, crafting can refer to “any transformational process involving skill (knowledge, talent or proficiency, effort), aesthetics, and cultural meaning and consider the results of that crafting (verb) to be crafts (noun)” (Costin 2005: 1033-1034).

and social relations of production, the intersection of technologies, labour and social activities, the objects of production, the relations of distribution, and the consumption of the crafts within an interrelated system.

Although they are central to the mechanisms of the economy, production sites such as mines and metalworking locales often remain overlooked in studies of the political economy of complex societies. This oversight may in part be the result of the often overtly technical focus of many studies of pre-industrial mining (Killick 2004). Technology and the organisation of production are, however, socially embedded phenomena, integral to social systems (Lemonnier 1986; Pfaffenberger 1992; Childs and Killick 1993). Mining, production locales and metalworkers provide an important dimension in reconstructing resource strategies and the socio-political context of production. As Knapp (1997: 1) emphasises, “Although mining communities are often socially and spatially remote, they are linked to broader social, communications, transport and economic networks by virtue of their ability to supply a raw material in demand to a regional or world system”. Studies of production locales afford the opportunity to locate producers within a wider web of social and economic relations. This investigation in turn has the potential to refine existing understandings of the mechanisms of power and economy of past societies.

1.2 Metals and the Iron Age political economy of southern Africa

The appearance of iron and copper in the archaeological record in southern Africa in the early first millennium AD marked a transition in the political economy of the region in the direction of sedentary agriculturalist communities (Maggs 1994; Pwiti 1996; Miller and van der Merwe 1994; Mitchell 2002; Huffman 2007). Throughout the Iron Age² metal was used in a variety of different and overlapping contexts, such as for agricultural tools, weapons and adornment. The use and valuation of metals varied, and was negotiated contextually

² The Iron Age is a term used to refer to a period of history associated with agriculturalist communities in southern Africa. It is conventionally divided into the Early Iron Age (AD 200–1000) and the Late Iron Age (AD 1000–1900). While the problematic nature of such terminology must be acknowledged (Mitchell 2002: 257), the terminology remains widely used and retains prescriptive utility for that reason.

(Herbert 1984; Bisson 2000; Childs and Herbert 2005; Swan 2007). For example, hoes, one of the largest iron-based items produced pre-colonially (Maggs 1991), were used as a store of wealth, in ritual, in marriage exchanges, and as heirlooms (Junod 1927; Stayt 1931a; Scully 1978; Davison 1984; Herbert 1993, 1996; Chirikure 2015). Copper has been referred to as the “red gold of Africa” and had a high social value for many communities in sub-Saharan Africa (Ellert 1984; Herbert 1984; Bisson 2000; Swan 2007; MacGonagle 2007; Chirikure 2015).

Metals were exploited by Iron Age communities for over two millennia, in a variety of changing socio-political contexts (Maggs 1982, 1992; Miller and van der Merwe 1994; Calabrese 2000; Swan 1994, 2008; Miller 2010; Chirikure 2015). Increased social stratification from the terminal first millennium is correlated with an increase in mining, the specialised production of iron and copper (Swan 1994; Calabrese 2000; Miller 1995, 2001; Chirikure 2007), and new innovations in metal working, particularly the production of tin bronze (Miller 2001; Killick 2009; Bandama 2013). The settlement of densely occupied hilltop sites, and the associated change in social and political differentiation in the early second millennium, represented the emergence of a class-based hierarchy and the manifestation of early states (Sinclair 1987; Pwiti 1991; Calabrese 2000; Pikirayi 2001; Huffman 2000, 2007, 2009; Sinclair et al. 2012; Chirikure et al. 2013, 2016a). Changes in production strategies are widely considered to be integral to the developments that took place in this time period (Huffman 1972, 1974, 2000, 2009; Pwiti 1991, 1996, 2005; Swan 1994; Calabrese 2007). In particular, it was the production of gold and ivory and their export to the East African coast that fed into the Indian Ocean exchange networks facilitated by Swahili merchants.

The analysis of metals within early states in southern Africa has indicated the importance of metallurgy and the consumption of metals in elite social identification (Herbert 1996; Calabrese 2000; Miller 2001; Chirikure 2007). However a number of issues arise when approaching the role of metals in the political economy of this period. In southern Africa, key resources such as copper and gold occur in localised mineral deposits (Fig. 1.1). Importantly, pre-colonial mines were often located at far distances from “elite centres” and from the areas of research that have dominated explanations of the development of the southern African political economy (Summers 1969; van der Merwe and Scully 1971; Evers

and van der Berg 1974; Huffman et al. 1995; Swan 2008; van Waarden 2012). As a result, there remains little exploration of how miners and metalworkers located in these regions were organised and networked into the regional economy. The modelling of metal production in this period derives in large part from research at political centres rather than production locales. The modelling has also been configured within frameworks that rely on particular conceptualisations of the working of power within early states. Given the geographical distribution of pre-colonial mines, the emphasis in relation to the context of production in southern Africa has been on understanding how resources “flowed to capitals”, or indeed how elites were able to exploit producers (Huffman 1972, 1974, 2000; Swan 1994, 2002; Killick 2009; van Waarden 2012; Wood 2012).

While explanations have emphasised the control of metals, the relationship between production centres and the emergence of state systems in this period is poorly understood. The centrality of the context of control, and the agency or lack thereof of producers, remains assumed rather than empirically demonstrated. Few studies have addressed the identity of producers, the relationship between production centres and political centres, and the nature of exchange mechanisms between these regions from the vantage point of producer sites. This translates into a lack of research into the mechanisms of the regional domestic economy in this period for those sites not obviously or directly associated with political complexity.

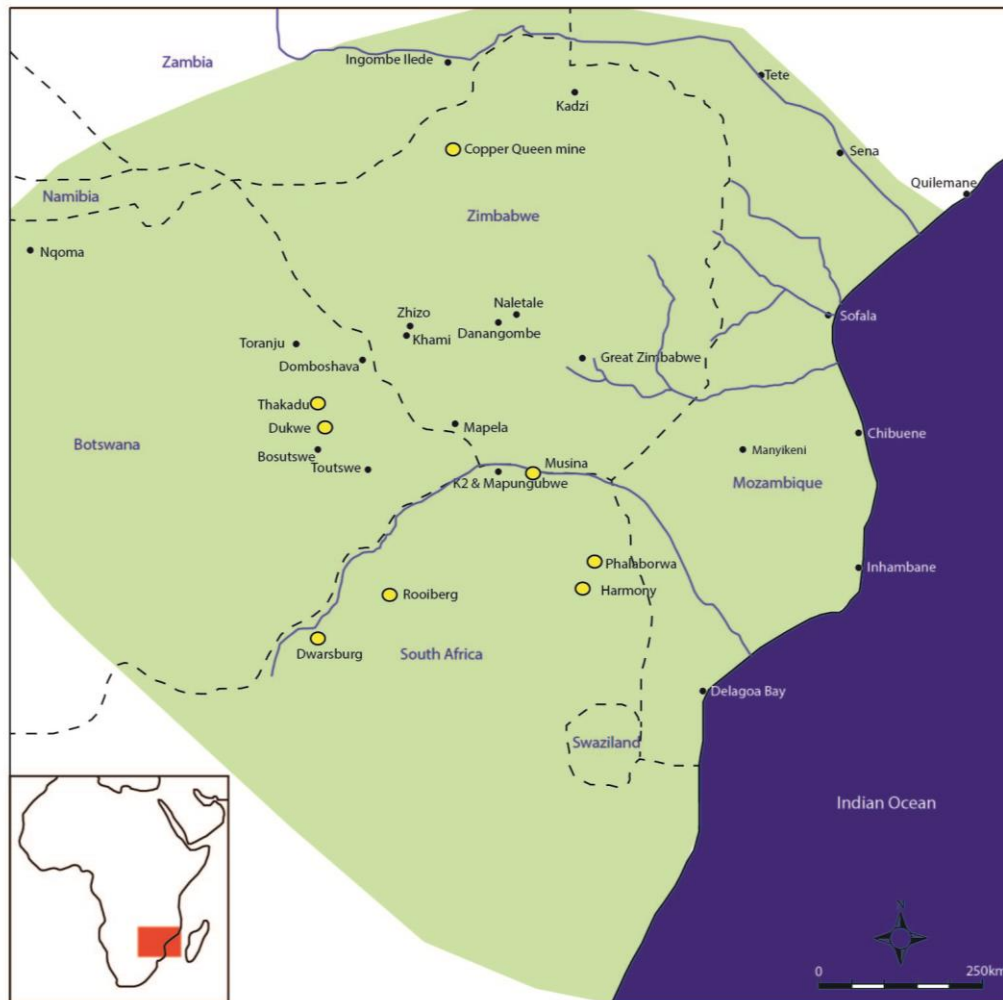


Figure 1.1 Map of southern Africa showing some of the key sites mentioned in the text, and some of the known copper resources exploited by Iron Age communities.

1.3 Phalaborwa as a locus of metal production

Within this context, studies of localised metal-producing regions provide an important avenue for a revised understanding of the political economy. Phalaborwa³ (Fig. 1.1) is a locus of copper and iron production centred on the Palabora igneous complex. Phalaborwa is located in the Limpopo province of South Africa, in a region commonly referred to as the

³ Phalaborwa is sometimes misspelt 'Palabora'. This second spelling has been applied to the geological formation known as the Palabora igneous complex. It is also used in the name of the Palabora Mining Company (PMC).

Lowveld. The Lowveld is considered an environmentally marginal zone due to the high temperatures, low rainfall, and various animal diseases that have historically been documented in this region (Meyer 1984; Plug 1989; Plug and Pistorius 1999). As such, occupation of this region is considered to have been strongly influenced by the presence of mineral resources. Phalaborwa was a well-known area of specialised metal production in the 18th and 19th centuries. Metal resources sustained local communities and fed into local, regional and global exchange networks (the latter via Indian Ocean traders on the east coast of southern Africa) (Scully 1978; Pistorius 1989; Miller et al. 2001). The high regard in which the Phalaborwa metalworkers were held is captured in the following poem stanza from the region: “Phalaborwa, where the hammer is heard, the lowing of cattle is not there, the hammer resounds” (Mamadi 1940: 81).

Evidence of the production of metals from the domestic contexts associated with settlements in Phalaborwa in fact dates back to the terminal first millennium (Miller et al. 2001). Lolwe Hill, located on the Palabora igneous complex, was the main source of copper and iron ores, and both metals were smelted and smithed from this period (More 1974; van der Merwe and Scully 1971; Pistorius 1989; Miller et al. 2001; Thondhlana 2013; Thondhlana et al. 2016; Killick and Miller 2014; Killick et al. 2016). Two radiocarbon dates from mine shafts in Lolwe Hill dated to 950 ± 60 b.p. (Y-1635) and 1180 ± 80 b.p. (Y-1636) (Stuiver and van der Merwe 1968) further confirm that mining took place from the terminal first millennium onwards.

Previous archaeological research in Phalaborwa estimated the location of production and habitation sites to be in close proximity to Lolwe Hill. These included three sites—Kgopolwe, Nagome and Shankare—with both an early archaeological occupation from the 10th to the 13th century and a later occupation from the 18th to the 19th century (van der Merwe and Scully 1971; Evers and van der Merwe 1987; Miller et al. 2001). While Nagome was destroyed by modern mining activities, and Kgopolwe is a protected provincial heritage site, Shankare, located on the premises of the Palabora Mining Company (PMC) property, remains intact and forms the primary focus of this thesis.

The long history of occupation at Phalaborwa, and the distinct location of settlements linked to the Lolwe mine, provides an opportunity to address the organisation of metal production within the domestic, community and regional economy from a diachronic perspective. The

early occupation period (AD 900–1300) of mining and metallurgy in Phalaborwa also coincides with the development of complex social formations (such as early states) that took place across the northern parts of South Africa, eastern Botswana, and south and central Zimbabwe. The study of metal production at Phalaborwa thus further provides an opportunity to study a locality of regionally situated metalworkers in relation to the wider political economy.

1.4 Research aims

With this background in mind, the broad objective of this study is to explore the context of metal producers and consumers in Phalaborwa in relation to the domestic and regional political economy. Such an analysis is aimed at the critical interrogation of the dynamics of economy and power within the Iron Age through the context of a regionally located production site. The methodology employed in this thesis combines historical analysis and archival study, archaeological fieldwork (including surveys and excavations) and material analyses and artefact studies.

Locally derived parameters from the historical context provide an important dimension in assessing continuity and change in the past (Stahl 1993, 2009). Archaeological, oral and written historical records relating to production in the 18th and 19th centuries provide an opportunity to assess the organisation of the production and context of Phalaborwa within the regional political economy of the 18th–19th century period (Krige 1937a; Scully 1978; Pistorius 1989). A diachronic perspective provides an opportunity to interrogate—by means of comparison and contrast—craft production and its context within the wider political economy in the two identified occupational periods in the region.

The identification and study of settlements, production locales, and the spatiality of production form an important vector of research into the political economy (Costin 1991, 2001, 2005). Shankare, a habitation site in close proximity to the mine, provides a locus for the archaeological component of this study. The organisation of production of metals at Shankare must be interrogated in relation to a variety of parameters, such as context, concentration, scale, intensity (Costin 1991, 2001), and crafting techniques (Rice 1981;

Arnold 1987). Such approaches require the identification and study of different activity areas and occupational horizons.

Understanding the organisation of production at Shankare requires a consideration of the scheduling of different stages of production activities alongside other crafts and domestic activities. Implicit in this line of interrogation is the recognition that producers are not homogenous social units, but instead are made up of individuals, households, class- and gender-based age groups, and other social groupings, which in turn constitute important scales in the analysis of the domestic political economy. A critical consideration of the identity of producers at Shankare is central to reconstructing the role of production within the region. That technology is socially embedded implicates the individual negotiation of crafters' identities within the wider community (Vaughan 1970; de Maret 1985; van der Merwe and Avery 1987; Sterner and David 1991; Tamari 1991; Child and Killick 1992; Dobres and Hoffman 1994; MacEachern 1994, 2005; Haour 2013). However, the dynamics of how these processes of identification manifest must be contextually addressed.

There are a number of proxies for approaching identity and interaction in the southern African Iron Age. On one scale, ceramic decoration has been widely used as a proxy for group identification (Loubser 1991; Huffman 2007; Hall 2012). The analysis of stylistic categories like ceramic decoration provides an important platform for the investigation of identity construction within the context of the producers in Phalaborwa. Mechanisms of exchange may have facilitated identity construction and interaction on local and regional scales. Another significant proxy for identity and interaction involves the consumption of "social valuables" (Friedman and Rowlands 1977; Helms 1979; Hayden 1998; Earle 1987, 2002; Schortman and Urban 2004). Copper and iron, valuable items both in relation to local consumption and the regional domestic economy, are useful in addressing exchange relations and identification in the southern African Iron Age. Similarly, imported items, such as glass beads, cotton cloth, bronze and cowrie shells, have been considered central to the creation of class and social hierarchy in the emergence of complexity in southern Africa (Calabrese 2000; Miller 2001; Denbow et al. 2007; Wilmsen 2009; Huffman 2009; Sinclair et al. 2012; Wood 2012). The consumption of these items is thus tied up with models of interaction, exchange, and the creation of power relations. Whether these items are present

or absent in Phalaborwa is therefore important to our understanding of production in the area, and its function within the political economy of the period.

Power relations are embedded in the political economy on a number of levels. These may variably manifest in labour relations within a household, the organisation of crafts in a community, exchange and consumption patterns intra and inter regionally. Addressing these different scales of analysis provides a more integrated approach to the construction and negotiation of power relations in the southern African political economy.

1.5 Outline of thesis chapters

This thesis is organised as follows: Chapter Two provides an overview and critique of approaches to the political economy of complex societies that have influenced theoretical and methodological approaches to complexity in the southern African region. Doing so provides the basis and rationale for the theoretical framework employed in this thesis, which is elaborated on in the second half of the chapter. Chapter Three is a study of metal production in Phalaborwa in the 18th and 19th century within the context of the political economy of the Lowveld region, using historical sources. This chapter provides an important resource for examining the organisation of crafting in the political economy historically. Chapter Four provides a background to research undertaken in Phalaborwa, and an overview of the archaeological evidence from the Kgopolwe (AD 900 – 1300) and Letaba (AD 1700 – 1900) occupational periods. Chapter Five is an overview of the fieldwork undertaken for this current thesis at the site of Shankare. Chapter Six, the analysis of the ceramic assemblage recovered from Shankare, provides a platform to interrogate the relationship between ceramic style, identity construction and interaction of craft producers in a regional political economy. Chapter Seven addresses the reconstruction of the organisation of metal production at Shankare through the analysis of metallurgical remains. Chapter Eight is focused on the analysis of additional and complementary crafting activities at Shankare, such as bead making and cotton production. Chapter Nine provides an analysis of the glass bead collection from Shankare. Chapter Ten is an in-depth analysis of the collection of cowrie shells recovered from the site of Shankare. Both the glass beads and cowrie shells

are assessed in terms of inter-site comparisons, regional connections and the identity of the crafters at Shankare. Finally, Chapter Eleven, the discussion chapter, explores the implication of the present study for understanding producers within the political economy of the southern African Iron Age.

Chapter Two:

From global to local: theoretical approaches to political economy

“What is at issue is presumably the way in which an object is socially consequential, the facts about it which account for the manner in which it can, must, or cannot be circulated. This is not a matter just of singularity or uniqueness but of context and narrative. Nor do the special features of these objects arise from either system of circulation or relations of production—unless one is speaking of the relations of producing history, of dictating a story which constitutes a powerful relation and an enduring effect.” (Thomas 1991:100).

2.1 Introduction to chapter

The application of the analytical lens of “political economy” when approaching the social and political dynamics of the organisation of the economic activities of past societies is not a neutral endeavour, and any attempt to study the political economy must be situated within the context of theoretical shifts in the discipline and regional research trajectories. Consequently, this chapter begins by reviewing the development, context and application of some of the dominant archaeological approaches to the political economy of past societies and states globally that have influenced theoretical and methodological approaches to complexity in the southern African region. Embedded in these models are particular conceptualisations of the nature of power, wealth and prestige in the functioning of complex societies. These, in turn, have informed reconstructions of the mechanisms of production, exchange and consumption in the southern African region.

Globally, contemporary research trends surrounding the political economy of complex societies, informed in large part by post-processual research agendas, have shifted towards studies of macro-scale processes within the construction of community, polity or “empire” (Preucel and Hodder 1996; Hirth 1996; D’Altroy and Hastorf 2001). This theoretical shift informs the direction of the second half of the chapter, which serves to outline the approach to the study of political economy that will be employed in this thesis. Using a

framework that considers craft production as a system within, and an integral component of, political economy (Costin 2001, 2005, 2015; Sinopoli 2003) provides a platform to assess the construction and contestation of the mechanisms of the political economy on multiple levels and in multiple spaces in the southern African region. Such an approach exposes the importance of empirical, contextually driven studies of producers and consumers on the “peripheries” of political power, and attention to non-state or “interstitial spaces” within the region.

2.2 Introduction to the political economy of southern Africa

The focus of this thesis is on the political economy of southern Africa’s Iron Age agriculturalists, whose occupation has broadly been categorised into the Early Iron Age (AD 200–1000) and the Later Iron Age (AD 1000–1900). The two periods are often distinguished from each other on the basis of changes visible in the political economy of the region around AD 1000 (Pwiti 1996; Mitchell 2002; Huffman 2007). Before AD 1000, agriculturist communities practised many forms of production, with agriculture, domestic stock keeping, metallurgy, salt production, hunting, and bead making among the vital components of the economy (Maggs 1994). Archaeological evidence suggests that resources such as iron and ivory at Ndondondwane (AD 780–910) (Maggs 1984, 1994; Maggs and Whitelaw 1991), salt at Kaitshàa (AD 640–1150) (Denbow et al. 2015), and specularite at Nqoma in the Tsodilo hills (AD 850–1090) (Denbow 1990: 168) were exploited for surplus production. In fact, first millennium AD regional production and exchange networks involving these commodities spanned great distances, thereby linking widely separated areas (Denbow 1984, 1990; Miller and Whitelaw 1994; Whitelaw 1994; Mitchell 2002; Denbow et al. 2015).

By the late first millennium AD, societies in southern Africa were evidently growing, as showcased by increased settlement size and density and the accumulation of large cattle herds (Denbow 1990; Pwiti 1991, 1996; Pikirayi 2001). Communities in Zimbabwe, northern South Africa, and adjacent regions of Botswana started building stonewalled settlements on hilltops as early as AD 900 (Fouché 1937; Robinson 1966; Hanisch 1980; Denbow, 1984, 1990; Sinclair 1987; van Ewyk 1987; Calabrese 2000; Swan 2008; Van Waarden 2011;

Chirikure et al. 2013, 2016a). Dry-stone-walled hilltop sites represent the early manifestation of what is now archaeologically known as the Zimbabwe culture (Caton-Thompson 1931), southern Africa's prominent complex states system. The Zimbabwe culture primarily refers to hundreds of dry-stone-walled sites in Zimbabwe, Botswana, northern South Africa and Mozambique, which span the period from the 10th century to the 19th century AD (Garlake 1970, 1973; Sinclair 1987; Hall 1987; Sinclair et al. 1993; Chirikure et al. 2013). Elite Zimbabwe culture sites are further associated with an economy and political organisation broadly reflecting "urbanisation" (Sinclair 1987; Sinclair et al. 1993) and participation in a complex local, regional and international trade network (Garlake 1970, 1973; Sinclair et al. 1993; Pikirayi 2001). The Zimbabwe culture is generally considered to be southern Africa's most enduring and prominent state system (Garlake 1973; Sinclair 1987; Pikirayi 2001; Huffman 2007).

The evidence of changing settlement patterns and increased population agglomeration from the beginning of the second millennium at sites such as K2 (AD 1000–1220), Mapungubwe (AD 1220–1310), Mapela (AD 1030–1400) and others like Great Zimbabwe (AD 1000–1600) is considered to mark a rapid transition in the political economy of the southern African landscape (Pwiti 1991, 2005; Mitchell 2002; Huffman 2007; Killick 2009; Sinclair et al. 2012; Chirikure et al. 2013, 2016a). A range of factors, such as growing cattle herds, agricultural changes, population demographics and so on, have been posited to explain the development of complexity in the region during this time period (Garlake 1978, 1982; Beach 1980; Denbow 1984; Pwiti 1991, 1996, 2005; Swan 1994; Manyanga 2006; Chirikure et al. 2012, 2013, 2016a).

The most prominent explanation focuses on the impact of external trade via the Indian Ocean in engendering new forms of economic control, in turn facilitating social and political differentiation (Huffman 1972, 1974, 1982, 2000, 2009, 2010; Calabrese 2007; Wood 2012; Sinclair et al. 2012). The south-East African coastline was part of a larger and more expansive Indian Ocean trade network that spread from the southern tip of Africa to India and China (Chaudhuri 1985; LaViolette 2008; Fuller et al. 2011). Seasonal monsoon winds facilitated the transportation of people, ideas, plants and animals along the Indian Ocean rim. Swahili merchants along the East African coast facilitated trading interactions between

the interior of east central and southern Africa and coastal traders (Kusimba 1999; Horton and Middleton 2000; Middleton 2003).

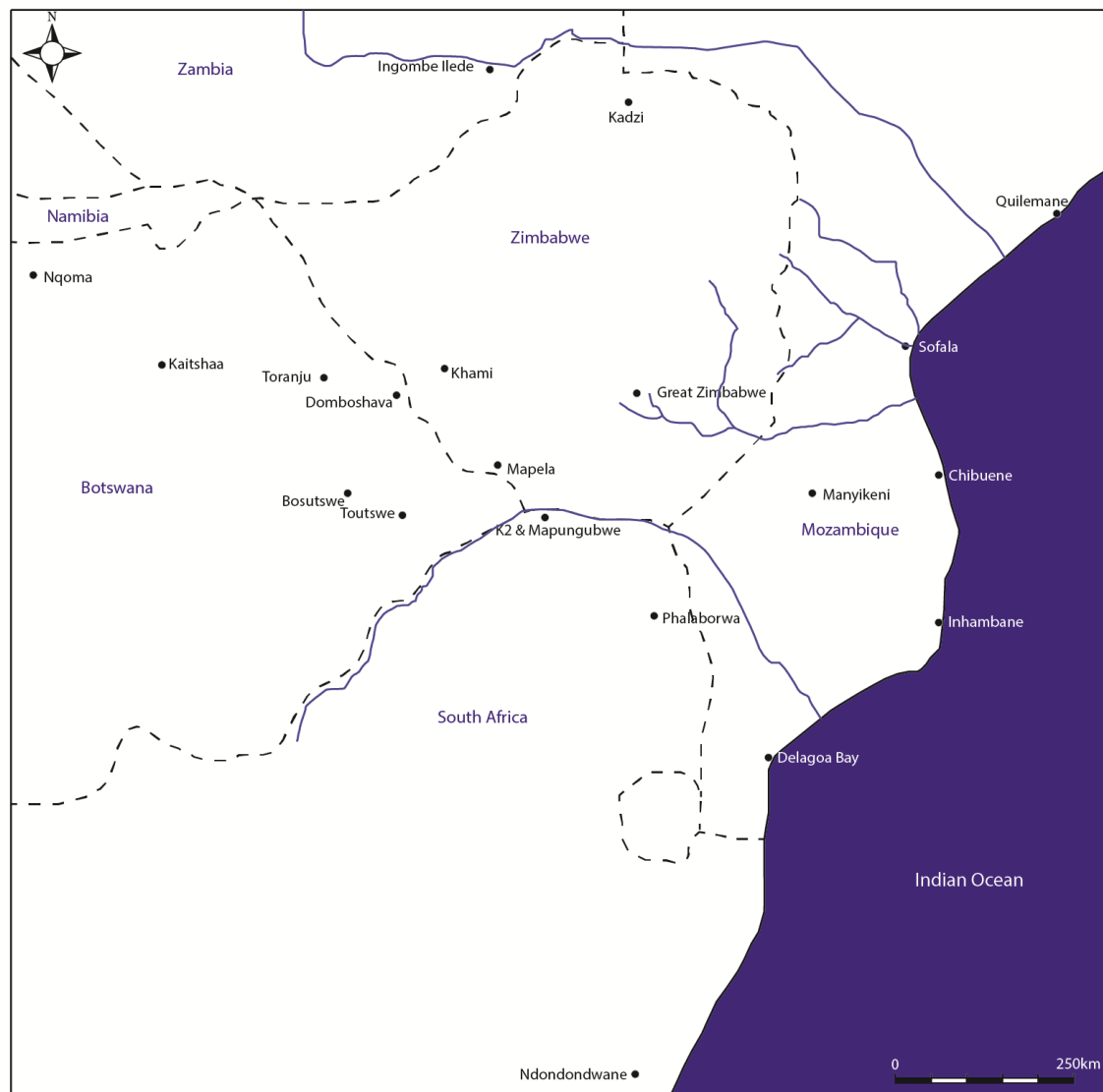


Figure 2.1 The Indian Ocean and southern African interior, with some of the sites mentioned in Chapter 2.

Documented exports from the East African coast, although varying through time, included ivory, tortoise shell, animal skins, gold, iron, copper, quartz and, of course, slaves (Freeman-Grenville 1962; Axelson 1969; Sutton 1999; Kusimba 1999; Pouwels 2002; Vernet 2009). Gold, ivory, skins and other commodities were brought from the southern African interior to the coastal ports such as Chibuene and Sofala (Fig. 2.1). In return, imports such as glass

beads and cowrie shells (*Cypraea annulus*) from the Indian Ocean trade networks appear in the interior of southern Africa towards the end of the first millennium AD (Sinclair 1982; Pwiti 1996; Robertshaw et al. 2010; Denbow et al. 2015), while bronze, cloth and foreign ceramics appear in the early second millennium AD (Davison and Harries 1980; Killick 2009; Chirikure 2014).

Control over economic resources features as a prominent driving force behind social and political hierarchy in the southern African region in the early second millennium AD. Along with imported items, locally produced items such as copper, ivory and iron are closely associated with consumption by elites at Zimbabwe culture capital sites (Calabrese 2000, 2007; Miller 2001; Huffman 2009; Wood 2012). The early period of the production of metals at Phalaborwa, from the 10th to the 13th century, coincides with these regional developments. Copper producers and production in Phalaborwa must be contextualised within current understandings of the workings of the regional political economy in which they are situated. This contextualisation relates in particular to the conceptualisation of producers, production, exchange and consumption within the political economy of emerging complexity in southern Africa.

Contextualising these terms requires a critical evaluation of the theoretical underpinnings of the mechanisms of power and economy that have been utilised in southern African archaeology. Conceptualisations of the nature of the state, the mechanisms of power within a state, and the relations between core and periphery utilised in southern African archaeology derive in large part from a specific, historically conditioned concept of the state and its apparatus. While these theoretical underpinnings are at times made explicit—by the application of prestige-goods models (i.e. Calabrese 2007; Huffman 2009; Wood 2012; Sinclair et al. 2012) or world-systems theory (Killick 2009; Wood 2012)—others, such as the mechanisms of power within a state and regional hinterlands, remain implicit. In the following section, I chart the dominant global theoretical orientations towards complexity and the state before addressing how these have shaped the study of political economy in southern Africa.

2.3 A review of influential theory in archaeological approaches to political economy

Political economy, although not a well-defined, coherent theoretical movement in archaeology, is a general term used to focus on “the broad economic and political structure of resource control” (Hirth 1996: 205). As Roseberry (1989: 44) suggests, for the social sciences, studies of political economy have commonly been framed in terms of “an analysis of social relations based on unequal access to wealth and power”. Archaeological interest relating to political economy has been dominated by issues of resource control, inequality, and the development of complexity in the form of the state (Hirth 1996; Smith 2004).

Inequality is considered a dominant structural principle that has been present in society since the aggregation of humans into large social groups; it is widely recognised as inherent in one way or the other to all human societies (Price and Feinman 2010: 1; however, see Paynter 1989 for an alternative view). Furthermore, as reflected in unequal access to economic resources, inequality is seen as the fundamental basis for the development of hierarchy, leading to an institutionalised inequality that is manifest at its most complex in the workings of the state (Renfrew 1973; Haas 1982; Arnold 1995; Price and Feinman 1995, 2010; Earle 1997). Many archaeologists refer to the broader movement, or “evolution”, of socio-political development under the term “complexity”, indicating varying degrees of internal differentiation and inequality, centralisation, decision-making hierarchies and class differentiation (Flannery 1972; Wright and Johnson 1975; McGuire 1983). While remaining loosely defined and the subject of continued debate, the epistemological basis of the notion of complexity is clearly rooted in Western modernity (Rowlands 1989), and complexity is closely associated with particular conceptions of the state, civilisation and urbanisation.

While Haas (1982: 3) defines the state as a “centralised and specialised institution of government”, and Yoffee (2005) as the “governmental center” and the territory politically controlled by the centre, many usages of the term “state” in archaeological literature refer to the state “more as an evolutionary stage than as a political institution” (Smith 2004: 80). Such an approach considers states as essentially variations of each other. The term “state” is heavily laden with connotations and imagery that exist in the public and archaeological imagination alike, modelled on the studies of ancient Old World states such as the city of Ur

in Mesopotamia (Stein 1998; Ekholm and Freidman 1982; Connah 2001; Yoffee 2005). Eurocentric and citycentric values relating to the concept of the state and civilisation pioneered by the likes of Gordon Childe (1950)—maintaining, for example, the existence of monumental architecture, literacy, an elite ruling class that controlled surplus production, regular trade over long distance, and the existence of permanent leadership—remain influential across the world (Stein 1998; Connah 2001; Bernbeck 2008).

Within this schema, the manifestation of urbanisation is intrinsically linked to social changes such as the formalisation of social hierarchy and the emergence of class distinction, political and religious hierarchy, the division of labour and the presence of full-time specialists (Whitehouse 1977; Stein 1998; Yoffee 2005; Armes 2007). It is further implicitly assumed that only the level of the state can provide the “bureaucratic organisation” needed for a city (McIntosh 1999: 202). Application of the descriptive label of “state” to complex societies in prehistory has in turn implied particular mechanisms of control over the economy. One of these is the presence of a core and periphery, commonly associated with “urban/developed”, on the one hand, and “rural/poor”, on the other (McIntosh 1991; Stein 1998), from which surplus is extracted and goods are redistributed to (D’Altroy and Earle 1985; Sinopoli 1994).

Models of the political economy of the state reflect a specific set of values about the state, according to which it is often considered to be territorially powerful, controlling the flow of goods, services and information over large areas (Yoffee 2005). Approaches to production and exchange focus on control over these aspects of the economy as key to the development of the political power of elites. A particular focus in relation to production is the development of specialised production (Brumfiel and Earle 1987; Earle 1996, 2002). Approaches to specialisation in studies of the political economy focus strongly on the creation of attached specialisation as a means to strengthen political and economic control (Earle 1996, 2002; Peregrine 1991). Elites use specialists to produce items that require particular skill and thus larger investments of labour—items that, as a result, are not accessible to the wider population (Peregrine 1991; Brumfiel and Earle 1987; Earle 1996, 1997, 2002).

Control over the consumption of commodities of high social value is a prominent feature of the discourse surrounding socio-political complexity in the archaeological literature (Rowlands 1987; Trubitt 2003; Schortman and Urban 2004). For example, Kristiansen (1987) and Kristiansen and Larson's (2005) influential work emphasised the importance of control over bronze imports in the creation of chiefdoms in Bronze Age Europe. Consumption patterns in complex societies have often been approached within the context of studies of trade (Haselgrove 1982; Blanton and Feinman 1984; Oka and Kusimba 2008). Long-distance trade has been given significant attention as an explanatory factor in the emergence and maintenance of complexity and the state (Friedman and Rowlands 1977; Renfrew 1977; Renfrew and Shennan 1982; Kipp and Schortman 1989; Johnson and Earle 2000; Kristiansen and Larsson 2005).

In particular, the model of a prestige-goods system developed by Friedman and Rowlands (1977), as part of an epigenetic model of social evolution, has been influential in conceptualising the role of external trade in the context of complex societies. The prestige-goods model explains the development of social inequality and political power by elites in early states through control over the distribution and consumption of prestige goods from long-distance trade networks. A prestige-goods system is associated with control over the exchange and consumption of trade goods by political centres, which act as redistribution points (Friedman and Rowlands 1977: 224). Discussions around the importance of prestige goods in the development of the political economy focus on their importance as symbols of participation in a wider social order (Helms 1993), the creation and conveyance of power (Earle 1996; Hayden 1998; Schortman and Urban 2004), the indication of a specific set of rights of the holder in society (Rowlands 1987; Earle 1987), and displays of "wealth, success and power" (Hayden 1998), as well as on their use in creating relationships of dependency on reciprocity (D'Altroy and Earle 1985).

The role of external trade and the construction of power relations between core and periphery in the analysis of prestige-goods systems has been further influenced through the use of world-systems theory (Wallerstein 1974, 1984). Although Wallerstein distinguished between luxury and necessity goods, arguing that only the latter were significant in the development of the world system (Peregrine 1990, 1992, 1996), archaeological adaptations have addressed ancient economies in terms of the exchange of prestige goods between

cores and peripheries (Schneider 1977; Frankenstein and Rowlands 1978; Kristiansen 1987). Political models of power further emphasise the social context of trade and exchange in the creation of prestige, the maintenance of alliances, and evidence of conspicuous consumption (Brumfiel and Earle 1987; Hayden 1995; Price and Feinman 1995, 2010; Hayden and Villeneuve 2011).

2.4 A critique of current approaches to the study of the political economy of complex societies

The application of various hybrid frameworks to understand the political economy of states and complex societies in archaeology, particularly in non-Western regions such as Africa, has not been without its problems (McIntosh 1999; Stahl 2004). Dominant approaches to the political economy of complex societies and states have tended to focus almost exclusively on the control over a particular aspect of the economy. This singular emphasis, which has often polarised production and exchange systems, has in many cases resulted in an over-simplification and distortion of the workings of the ancient political economy (Hirth 1996; Smith 2004).

Studies of the socio-political context of craft production, particularly in the context of state systems, relate almost exclusively to the political strategies used by elites for control over craft resources and persons (Friedman and Rowlands 1977; Blanton and Feinman 1984; Brumfiel and Earle 1987; Peregrine 1991). As Patterson (2005) writes, approaches to questions of craft production and specialisation are couched in the language of social-cultural evolution, which comes with a plethora of assumptions that are often not made explicit. This situation has left a legacy in archaeological approaches to craft specialisation in which it is linked to a specific set of changes related to the economy, resulting in control over craft specialists in an urban centre and the demise of rural craft production. Interrelated factors—trade, innovation and specialisation—are often correlated with one another and with increased political stratification and state formation, without clear evidence of causation linking them. Furthermore, the mechanics of control, and the conversion of control into elite power, are often too poorly explored.

The exchange mechanisms of complex political economies are often assumed rather than empirically demonstrated, with the variety, conditions and types of exchanges rarely distinguished (Smith and Schreiber 2005). External trade is often contrasted with regional and local trade, with local and utilitarian goods seen as necessary only for self-sufficiency and not as driving forces of socio-economic change. However, internal trade without external stimulus may also result in a prestige-goods system (Bhan et al. 1994). An emphasis on the accumulation of wealth through external trade as an explanatory factor in the development of the state has also contributed to a dichotomy between “wealth” and “staple” finance (D’Altroy and Earle 1985), with an overemphasis on the theory of wealth finance. Critics have demonstrated that these two strategies are not mutually exclusive or correlated with particular levels of socio-political hierarchy (McIntosh 1999: 19; Bernbeck 2008). The context and motivations for the development of long-distance exchange networks are often sought in the desires of emerging elites for luxury goods within a state structure (e.g. Brumfiel and Earle 1987). Importantly, a number of key studies have demonstrated that the facilitation of long-distance trade between regions and groups does not require a centralised hierarchical state society (Yoffee 1979, 2004; Smith 1999; Oka and Kusimba 2008). For example, Smith (1999) looked at the role of ordinary goods in social relations and the development and creation of long-distance trade networks on the Indian subcontinent between the 2nd century BC and the 4th century AD. In this period, trade goods were widely distributed without a centralised state controlling the economy. Smith (1999) challenged the view that trade arises out of the result of economic directions from political centres, arguing that this approach dismisses trade in other contexts on the basis of an absence of evidence for a formalised state economy.

The agency of intermediaries and traders in exchange systems is another avenue of external trade relations in complex societies that is often overlooked. Traders, a key part of exchange systems, should be considered in their own right as distinct from political systems (Oka and Kusimba 2008; Middleton 2003). Studies of the role of traders and merchants on the Swahili coast, including a study conducted by Middleton (2003), describe the powerful role played by merchants in the transformation of goods from one conceptual exchange category to another: from “everyday” necessary goods or luxury goods into commodities, trade goods

or heirlooms. In playing this role, traders were able to transform their own social status within society (Middleton 2003: 517).

One of the key shortcomings of many archaeological approaches to political economy has been the almost exclusive focus on elite centres, centres of political control or central places (Renfrew 1996) in developing models of the political economy of complex societies (Stein 1998, 2007; Stahl 1999; 2004; Yoffee 2005). Where studies of urban landscapes are pursued, interaction with the rural has often been cast as a fixed and static variable (LaViolette and Fleisher 2005; Stahl 2004). Furthermore, most analyses of early states are severely lacking in attention to the role of subsistence production, with control over land, pastoral capital and labour among the other factors that are often overlooked (Stein 1998: 9). Inferences about the lack of access for non-elites and producers and consumers on the periphery, and about the mechanisms by which ideological and economic control over non-elites or peripheries was enacted, are often lacking (Smith 1999; Smith and Schreiber 2005).

The applicability of world-systems theory in archaeological contexts, and the implications for the relationship between cores and peripheries, has been widely discussed (Ekholm and Friedman 1982; Chase-Dunn and Hall 1993; Sinopoli 1994; Kohl 1996; Peregrine 1996; Jennings 2011). Kohl's (1996) case study of Bronze Age Europe described evidence of multiple cores and hinterlands. Relations between core and periphery were not structurally analogous to Wallerstein's modern economy, with, among other differences, relations too weak to exert control from the core over the periphery (Kohl 1996: 149). Such observations highlight the need to question the assumptions about dependency and the "underdevelopment" of the peripheral regions, recognising that not all core-periphery relations are hierarchical or exploitative (Chase-Dunn and Grimes 1995).

Conceptualisations of the centre remain influenced by a particular historically conditioned notion of the state that has forced complexity to fit models adopted from other regions (Stahl 1999). Current research into the development of "Old World" states has challenged the notion of powerful, territorially large dominions, recognising that many early states were small city-states, engaged in struggles for dominion and dependence among each other along peer-polity lines (Renfrew 1996), with limited ranges of political influence (Stein 1998, 2007; Yoffee 2005).

Similarly research into complexity in the African archaeological record has established the diversity of the expressions that complexity can take, and the fact that “complex societies” need not have monuments, centralised decision-making or vertical stratification (Mafeje 1991; McIntosh 1999; Vansina 1999; Richard 1999; Stahl 1999, 2004; Connah 2001). For example, urbanism in the Inland Niger Delta in Mali, West Africa, has been famously characterised as a complex heterarchical society maintaining “articulated specialization”, which has challenged the causation that is often posited between specialisation, political centralisation, urbanisation and the state (McIntosh and McIntosh 1984). This horizontal stratification or heterarchy has challenged neo-evolutionary models of change from simple to complex, associated with particular developmental classes. Emerging archaeological evidence from southern Africa also supports the existence of a network of sites with stonewalling, with evidence of long-distance trade across a wide area pointing to the existence of a heterarchical structure (Chirikure et al. 2014). Thus, models of the political economy, if uncalibrated to suit the local contexts, do not fit a wide array of historical and archaeological cases in which development was unpredictable, multilineal and associated with a variety of outcomes (McIntosh 1999; Vansina 1999; Richard 1999; Stahl 1999; Monroe 2013).

Power is one of the core concerns of studies of the political economy of complex societies. An important avenue of deepening research into political economy involves approaching the workings of power within a state more closely (Stein 1998). Most conventional approaches to the political economy of states have emphasised control over the means of production—economic control—as central to the creation and maintenance of power (Haas 1982). Many studies of power in relation to the mechanisms of political economy consider power in terms of how it was institutionalised by rulers, their control over the resources, and the organisation of the production and exchange of goods. Power is also represented in consumption patterns, an elite’s access to certain goods as well as services, or in architecture, particularly monumental architecture. Even political models (such as Earle 1997) looking at individuals’ aspirations to political power still often assume that these individuals were “motivated by a uniform, common sense ambition of power” (Dobres and Robb 2000: 6).

Crumley (1995) introduced the concept of heterarchy as an alternative to the model of hierarchical power that dominates conceptualisations of power in studies of class relations, social organisation and “complex societies”. Heterarchy is defined as the relation of elements to one another when they are not ranked, or when they possess the potential for being ranked in a number of different ways (Crumley 1995: 3). For example, power can be counterpoised, and power bases and their relative importance can change and are contextual, resulting in the reranking of priorities. Similarly, Southall’s (1988) concept of a segmentary state, in which different forms of power (ritual, political) were counterpoised between different groups, provides further impetus for critically interrogating the nature of power relations in the political economy of complex societies.

Power in the case of certain African states derived from inter-personal relations rather than from the accumulation of goods (Mafeje 1991; Guyer 1993, 1995; Guyer and Belinga 1995; McIntosh 1999; Fleisher and Wynne-Jones 2010; Monroe 2013). Wealth-in-knowledge is another often-overlooked part of power relations, in which a diversity of shared knowledge is powerful in the collective (Guyer and Belinga 1995). Such a framework emphasises the composite rather than the accumulative processes of aggregation and state formation (Guyer and Belinga 1995: 110). Fleisher’s (2010: 279) study of the rural–urban interaction of Pemba Island indicated that the growth of Swahili towns in this region occurred as a result of a process of religious synoecism, indicating the importance of inclusionary processes in the Swahili political economy.

Critical approaches to power relations in the political economy must consider not only the nature of power but also how power was enacted, constituted and disputed. Studies of power thus need to be approached in conjunction with considerations of authority and legitimacy (Fleisher and Wynne-Jones 2010; Monroe 2013). Similarly, symbols of power do not merely “reflect” the political order: they also need to be understood for their performative work as part of the creation, in a contested arena, of meaning, which again is subject to interpretation, acceptance, rejection, and so on (Furniss and Gunner 1995; DeMarrais 2004). Such an approach to power relations benefits from the vantage point of social praxis (Warnier 2007). In southern Africa, Chirikure et al. (2016a) and Moffett and Chirikure (2016) have highlighted the fact that often it was the political position, such as office, that gave power to individuals and significance to residences.

2.5 Dominant approaches to complexity and the political economy of the southern African Iron Age

The above review and critique of approaches to the political economy of complex societies is useful for understanding the southern African Iron Age. The epistemological inheritance of archaeology as a colonial discipline in many parts of sub-Saharan Africa (Hall 1984, 1996; Shepherd 2002; Segobye 2005; Lane 1994/1995, 2005, 2011) has resulted in an approach to complexity and the state from within the established parameters of Western archaeology. This is indeed true for southern African archaeology, in which approaches to complexity remain strongly influenced by conceptual categories drawn from global archaeological theory (Manyanga et al. 2010; Moffett and Chirikure 2016).

Research into complexity in southern Africa has focused predominantly on sites that exhibit a selection of the traits described above, such as monumental architecture, an urban-like setting, and evidence of high densities of exotic imports. Explanations for the development of transformations leading to the evolution of class distinction and inequality draw predominantly from these large aggregated sites (Pikirayi 2001; Denbow et al. 2008; Huffman 2009, 2010; Manyanga et al. 2010; Chirikure et al. 2013, 2016a). These stonewalled hilltop sites show evidence of the materialisation of class distinction through changes in settlement space and the consumption of imported and locally made high-status items such as copper, bronze, gold, glass beads, cotton cloth and porcelain.

The notion of the state developed in southern Africa places emphasis on size, territorial power, and a politically and economically distinct elite class that controls surplus production, all characteristics that were originally emphasised in “Old World” state models (Stein 1998; Yoffee 2005). The terminology of the state within the context of complexity in southern Africa has facilitated the application of assumptions relating to power mechanisms in urban contexts, with little critical assessment accompanying it (Manyanga et al. 2010). The discourse that dominates the modelling of power relations in early southern African states such as Great Zimbabwe and Mapungubwe is of a centralised state controlling a large periphery, with smaller sites falling into a hierarchy of settlement size that is reflective of

political and social importance (Huffman 1982, 2009, 2015). In relation to Great Zimbabwe (AD 1000-1700), it has been widely assumed, although not empirically demonstrated, that Great Zimbabwe was a state with a hierarchical class-based organisation reflected in a settlement pattern within the site that differentiated between elite and commoner, and in a settlement pattern within the region that was reflective of the relative size of other sites (Caton-Thompson 1931; Robison 1959; Summers 1965; Garlake 1970; Sinclair et al. 1993). Similarly Huffman has variously argued that Mapungubwe (AD 1220-1320) was the capital of a state that controlled regional “district centres” and commoners, falling within a five-tier hierarchical ranking system spread over 30 000km² (Huffman 1982, 2009: 304-305).

This conceptualisation of power relations in the region depicts state control and power remaining at one capital for a period of time, until the decline of the state and the rise of a new state. This model has led to the proposed division of the Zimbabwe culture into three main phases: Mapungubwe (AD 1220–1320) as the first Zimbabwe culture state, succeeded by Great Zimbabwe (AD 1300–1700) and later Khami (AD 1450–1820) (Huffman 2000, 2009). This view, however, has since been challenged on chronological, logical and cultural grounds (Chirikure et al. 2014; Chirikure et al. 2016a).

In southern Africa, access to, and control over, economic resources is seen as the primary driving force behind social and political hierarchy. From early on in the 20th century, the presence of gold and exotic imports at Mapungubwe and Great Zimbabwe led to a discourse revolving around the royalty of elites in relation to the consumption of imports from external trade (Hall 1905; MacIver 1906), which remained a prominent discourse used to approach the Zimbabwe culture sites (Summers 1965). The emphasis on external trade and the application of a prestige-goods model to the development of complexity, as well as on the location of complexity’s origins within the Shashe-Limpopo basin⁴, was brought to the fore by the work of Huffman (1972, 1974, 1982, 2000, 2009, 2010). Huffman’s early work (1972, 1974) argued that the correlation between gold mining, external trade and the rise of the Zimbabwe state demonstrated unequivocally that external trade from Indian Ocean commerce provided the stimulus for the development of Great Zimbabwe. Later work by

⁴ The Shashe-Limpopo basin refers to the region, located at the confluence of the Shashe and Limpopo rivers in northern South Africa, eastern Botswana and southern Zimbabwe, where K2 and Mapungubwe are located.

Huffman (1982, 2000, 2009, and 2010) and others (Calabrese 2007; Wood 2012) has developed and expanded on the trade-stimulus hypothesis.

Evidence of imported items at these sites has resulted in a framework in which elite sites act as redistribution centres, controlling the consumption of high-value items from peripheral regions and imported items from Indian Ocean trade networks (Denbow et al. 2008; Wilmsen 2009; Huffman 2009; Wood 2012; Sinclair et al. 2012). Imports, as a new form of wealth in the interior in the terminal first millennium, are equated with political power and provide the fundamental basis for the development of a stratified class system (Huffman 1982, 2000, 2009, 2010). Within this model, control over and redistribution of trade goods are key to the rulers of these polities, since “wealth is synonymous with power in the Bantu Cattle Culture” (Huffman 1982: 143). This new form of wealth is contrasted with “traditional” forms of wealth such as cattle, which formed the basis for economic power, prestige and social dominance in Early Iron Age farming communities (Huffman 2000: 25). In this schema, it is argued that while cattle were loaned and given out to form alliances in the Early Iron Age imports were a storable form of wealth that could be further accumulated, facilitating the development of social stratification (Huffman 1982). This use of imported items in the creation of wealth, status and prestige has been variously explored by other authors (Calabrese 2000, 2007; Wilmsen 2009; Wood 2005, 2011, 2012; Robertshaw et al. 2010). As Robertshaw et al. (2010: 1899) surmise, “Easily stored and transported, beads provided an alternative expression of wealth and power that was not prone to the vicissitudes of cattle-keeping”.

Mitchell (2002: 289) and more recently Sinclair et al. (2012: 733) have observed that the concept of a prestige-goods economy, as developed by Freidman and Rowlands (1977), fits well with the above trade-stimulus hypothesis given for southern African states. Southern Africa’s early states, such as Mapungubwe and later Great Zimbabwe, have been further theorised in terms of secondary states that developed as a result of external stimulus (Huffman 1972, 2009; Killick 2009; Wood 2012). These authors have suggested that the state’s focus on tightly controlling the distribution of exotic goods led it into a dependency relationship with a ‘more developed core’ (Killick 2009; Woods 2012). This approach describes African traders as having little control over trade relations because merchants on the East African coast controlled the exchange value of goods they offered (Killick 2009;

Wilmsen 2009). Thus, within a world-systems approach, as elites became dependent on these goods for their social reproduction, and merchants gained control over the terms of exchange, Southern African elites would have become “dependent” on an international system. Wood (2012) suggests that the South African interior fits well within the concept of the peripheral state, “supplying raw goods in exchange for manufactured ones (glass beads and cloth) to a distant core that changed over time” (Wood 2012: 43). Thus, trading patterns shifting along the East African coast would have resulted in instability in the southern African states, resulting in the inevitable decline of different Zimbabwe culture entities such as Mapungubwe and Great Zimbabwe.

2.6 Limitation of current understandings of the political economy of the southern African Iron Age

The major limitation of most existing works on the political economy of Iron Age communities in southern Africa is that they have a centre-focused bias that affords little emphasis to “peripheral”, “commoner” or producer sites. The major consequence of this approach is that the relationship between the so-called centres such as Mapungubwe, producer regions such as Phalaborwa, the Gwanda-West Nicholson gold regions and many others is unknown. Furthermore, little emphasis is placed on interstitial spaces that might not have fallen within the political economy of one dominant polity or another.

Indeed, the model of centre and periphery in the southern African states has been extended across the southern African landscape, with little empirical research to support its application to sites in the region that lie outside the political centres (Garlake 1982; Beach 1998; Manyanga 2006; Pikirayi and Chirikure 2011). Similarly, the models of political economy that dominate theoretical discourse in the region remain untested in producer regions outside the elite centres. As such, we do not know much about the identity of producers, nor do we know whether they, the non-elite, had access to “prestige goods” or participated in exchange networks, or in what way they may have impacted the local, regional and global political economy. Many Iron Age sites in the Shashe-Limpopo region, likely dating to the Zimbabwe culture era, have been noted but not yet documented or

systematically researched (Fourché 1937; Hanisch 1980; van Ewyk 1987; Sinclair 1984; Calabrese 2007; Swan 1994, 2008). Similarly, there remains an equal amount of unexplored sites in Botswana—for example, Lose, Mookotso and Moduledi (Kiyaga-Mulindwa and Widgren 1996: 21)—and numerous large and densely occupied Leopard’s Kopje sites in north-eastern Botswana (Van Waarden 2011: 60), as well as in many other regions (Denbow 1984, 1986, 1990; Denbow et al. 2007; Reid and Segobye 2000; Wilmsen 2009; Van Waarden 2011; Van Waarden and Mosothwana 2013; Chirikure et al. 2013, 2016a). Sites with similar characteristics to Mapungubwe in Botswana and south-eastern Zimbabwe have been relegated to the peripheries and given limited consideration in the developments that took place in the Shashe-Limpopo region (Manyanga 2006), with many Zimbabwe culture sites on the landscape, such as Mapela, overlooked simply because they are less well known (Chirikure et al. 2013: 353).

While much emphasis has been placed on the control over mineral resources—especially gold, but also other resources such as skins, ivory, copper and tin—in the creation of a political economy based on wealth finance, the mechanisms and details of this mineral-resource control are not always clear, particularly in regions outside the political centres. Few studies have identified the miners, crafters and producers of the resources considered so key to the maintenance of the political economy of the region. No gold mining occurs in the vicinity of the site of Mapungubwe (Miller 2001), although some alluvial sources may have been accessible from the Limpopo River, or in the vicinity of Great Zimbabwe on the Zimbabwe plateau (Caton-Thompson 1931; Garlake 1973; Sinclair 1987), indicating that these would have been produced in other regions. Current interpretations suggest that the mining of gold was most likely undertaken by “peasants” who were passive participants, easily exploited in the production process (Swan 1994; Killick 2009; Woods 2012). Adequate historical and archaeological research has not been conducted to support these inferences. Indeed, the location and organisation of production at early copper, gold and iron mines for this period are poorly understood, and little is yet known about the gold-mining process: for example, how and by whom the gold was mined, how it was transported to the capital, and the location of mines during this period (Swan 2008). Given the distance between the political centres and the known copper and gold mines, it remains difficult to conceptualise how control was enacted (Swan 1994).

The organisation of production at elite sites also remains underexplored. Calabrese (2000) suggested a form of attached specialisation at Mapungubwe. However, recent research on the crucibles from the site (Chirikure et al. 2015) has demonstrated that metal working may have taken place in domestic contexts. At Great Zimbabwe, production debris does not point towards attached specialisation; instead, contrary to expectations of a large centre, it indicates dispersed and potentially homestead-based production (Bandama et al. 2016).

The notion that Mapungubwe and later Great Zimbabwe acted as redistribution centres in a political economy in which elites maintained exclusive control over the consumption of imports remains to be tested. Because researchers have primarily employed models that focus on the accumulative and redistributive structures of elite centres in external trade, regional and local exchange mechanisms have not been adequately explored in relation to the structuring of the political economy. There remains a conceptual contrast between “internal” and “external” trade (see for example Loubser 1991) that delimits the possibility for interaction and overlap between these two factors. Consumption patterns outside “centres” also remain untested in relation to models of lack of access for peripheral consumers. Recent research by Antonites (2012, 2014) suggests that consumers on the periphery of the Mapungubwe state had greater access to items of trade, such as glass beads, than previously thought. However, it remains unclear how centres such as Mapungubwe would have been able to control this periphery. While these consumers operated within the conventional “periphery” of the Mapungubwe state, other consumers from the same time period operating beyond these borders still need to be investigated.

Conceptualisations of wealth, prestige and power are intricately linked and constitute the key components of any study of political economy. There remains a need to critically interrogate the mechanisms and manifestations of these links in the southern African Iron Age. Access to, and control over, prestige-good items needs to be interrogated in relation to evidence of the display of wealth and the embodiment of prestige. A review of the context within which imports were deposited in both “elite” and “commoner” sites in the period suggests underlying cultural principles that shaped the valuation, use and deposition of imports, rendering a correlation between imports and prestige problematic (Moffett and Chirikure 2016).

Exploring the development of complexity and the basis of power in early states in the region in greater detail requires a critical assessment of the relative importance of control over trade (Huffman 1972, 1982, 2000), as well as a consideration of some of the other often-overlooked factors, such as pastoralism (Garlake 1978, 1982; 1978; Denbow 1984; Reid 1996), land, and people, within a wider recognition of the myriad overlapping factors that may have contributed to shaping complexity in the region (Garlake 1978; Beach 1980, 1998; Pwiti 1991, 1996, 2005; Manyanga 2006; Chirikure et al. 2016a, 2016b; Moffett and Chirikure 2016). It may also require a shift from focusing on areas associated immediately or by extension with “states”, conceptualised both as centres and as peripheries. Indeed, interstitial, regional spaces beyond the conventional boundaries of early states provide important focus points for exploring the dynamics of power and economy from an alternative vantage point.

Furthermore, there is need to critically assess the application of global theory to local contexts. Historians studying complexity in the region in terms of the exploration of power systems from a historicist perspective (Abraham 1960; Chanaiwa 1973, 1973; Mudenge 1974, 1988) offer an important contribution to conceptualising the mechanisms of political economy in the deeper past. For example, the concept of collateral succession, a model of the rotational succession that existed in the Mutapa (AD 1450–1900) state (Beach 1994; Holleman 1952), has been suggested in place of the concept of a political hierarchy of settlements on the landscape (Sinclair et al. 1993; Chirikure et al. 2012). The model of rotational succession provides a competing interpretation for the many stonewalled Zimbabwe culture sites that may represent individual/competing rulers and elites (Sinclair et al. 1993; Chirikure et al. 2012). It further challenges the correlation between the size and importance of sites by demonstrating that size was not historically the most important factor in determining the political status of a place, and indeed that the status of a place changed over time (Chirikure et al. 2012). Furthermore, it challenges the concept of “capitals” employed in Iron Age archaeology by demonstrating that elite settlements, rather than being representative of central administrative and political power, were political centres of rule for short periods of time (Chirikure et al. 2012: 359). The historical record need not be a template for interpreting the past, but it could be used to generate new ways of critically interacting with archaeological data that may be complementary to the use of

archaeological theory. Simular research in West Africa has been critical in demonstrating this (Stahl 1999; Ogundiran 2001; Richard 2009; Norman 2012).

2.7 Crafting the political economy: new directions

Critiques from global archaeological theory and the southern African context indicate that not enough attention has been directed towards addressing the construction of power relations and the dynamics of the political economy from multi-scale, regional perspectives. In particular, specific theoretical paradigms often result in the assumption of relations—or indeed the transfer of value—between core and periphery, elite and commoner, without empirically demonstrating these processes. Furthermore, external trade and specialised production are often correlated with a specific set of value assumptions relating to the organisation of the state. Key to addressing these issues is the analysis of the political economy from different spaces and scales (Kowalewski 2008). Macro-scales of analysis can inform larger “big theory” questions, and a recursiveness between the micro and macro analytic scales provides a more nuanced and in-depth appreciation of past political and economic dynamics (Fredriksen 2016). As Dornan writes:

“An effective agency approach requires a delicate and reflexive movement between an exploration of structural events and patterns of practice, between historically unique microprocesses and more macroscale, long-term processes, and between a focus on observable consequence and less obvious intentionality. It is in the moving back and forth between these poles that a more inclusive and complex picture of the practices of past individuals and the structures that they effected and were affected by can be constructed.”
(Dornan 2002: 326)

Therefore, we can ask, on the one hand, how an understanding of the relationship between nodes on the landscape, producers, consumers and household users adds to/alters/enhances our understanding of the political processes of state formation. On the other hand, we can ask how these multiple scales of analysis interact and transform our

understanding of, say, a producer's identity within the political landscape. Addressing these issues requires a holistic approach to political economy, which, instead of focusing on one factor (production or consumption) or one space (the centre or the periphery), addresses multiple aspects and how they interact in the reconstruction of resource-mobilisation strategies in time and space (Cobb 1993; Hirth 1996; Costin 2005). It also requires a focus on detailing the forms and mechanisms of economy within society (Smith 2004).

The organisation of producers provides an important avenue for understanding social and political processes on multiple scales. Craft production, and particularly craft specialisation, has been an avenue of archaeological research that has received a significant amount of attention in global archaeological literature (Rathje 1975; van der Leeuw 1977; Rice 1981; Peacock 1982; Costin 1991, 2001, 2005, 2015; Sinopoli 2003). Within craft production, a dominant research interest remains the identification of the types of specialised production. Specialisation has variously been defined as the "conditions of organized production and distribution of large volumes of manufactured goods (minimally, volumes in excess of local needs) by groups of individuals who are freed at least part time from subsistence pursuits" (Arnold 1987: 2). In addition, as Muller (1984: 491) writes, "It seems most useful to restrict specialization to situations in which the livelihood of the person is gained through the activity in question". Similarly, Costin (1991: 4) suggests that "specialization is a differentiated, regularized, permanent, and perhaps institutionalized production system in which producers depend on extra-household exchange relationships at least in part for their livelihood, and consumers depend on them for acquisition of goods they do not produce themselves". The relationship of environmental and economic strategies to the definition of specialists has also been addressed. As Rice (1981: 219-210) writes, "Craft specialization is here considered an adaptive process (rather than a static structural trait) in the dynamic interrelationship between a nonindustrialised society and its environment. Through this process, behavioural and material variety in extractive and productive activities is regulated or regularized."

Various studies are helpful and important in providing a framework for interrogating and identifying the different features of craft producers. Identification of the types of production has been carried out in relation to the spatiality of production sites (van der Leeuw 1977), with the household, the village, workshops and the factory remaining influential spatial

types (Costin 1991, 2001). Issues of access to and management of resources, and in particular of control over producers, remain an important focus (Rice 1981; Costin 1991; Peregrine 1991). The use of specialised tools and technologies (Arnold 1987) and the standardisation of products (Rice 1981) have also been emphasised. Muller (1984) has further differentiated between site specialisation and producer specialisation (Muller 1984).

The identification of specialised production based on a set of parameters has been proposed. Arnold (1987: 61) suggested high volumes of production (especially designated workshop areas), the exporting of products, standardised methods of production with a high degree of success, and evidence of control over the raw material resources as important parameters for specialist production. Costin (1991, 2000) suggested a broader set of parameters that also encompasses a greater variety of types and degrees of specialisation. Costin (1991, 2000) proposed four key parameters in approaching the organisation of specialised production: context, concentration, scale, and intensity. Context considers the nature of control over production and distribution, often framed in terms of attached or independent specialists. Concentration refers to the regional concentration of production facilities, essentially describing the spatiality of producers and consumers (Costin 2000: 384). Scale relates to the scale of production units, and the intensity of production, in relation to the amount of time producers spend on production activities, usually framed in terms of part- or full-time labour (Costin 2000: 378).

The study of craft production requires, and is part of, an understanding of the social, political and environmental contexts of the production process. As many authors have emphasised, the end goal is to understand the social and political context of the production process—how it was organised, why such a historically specific system emerged, what it was responding to, and what role crafting had in the socio-political context of that society (Arnold 1987; Costin 2005). The approach taken in this thesis, influenced by more recent work by Costin (2001, 2005, 2015) and Sinopoli (2003), emphasises the importance of approaching and understanding craft production as a whole system. As Costin (2001: 277) argues, approaching craft production as a whole system requires a critical interrogation of artisans, the means of production, the organisational and social relations of production, the objects, the relations of distribution, and the consumption of the crafts within an interrelated system. All these components, including material and non-material ones, need

to be considered in relation to one another, with the recognition that there is not a clear linear relationship between them. By embedding craft production within social relations and power structures, this approach provides a fuller and more critical consideration of the implications of the organisation of production for social structure and process (Costin 2001: 274). Furthermore, defining the craft economy in its entirety requires taking into account the intersection of the various technologies, labour and social activities (Hagstrum 2001) that complemented, contrasted, overlapped and possibly shaped one another.

While the identity of a crafts person is important in understanding all aspects of the production system, explorations of the identity of artisans in craft-production literature has focused predominantly on their placement in relation to the social order, with their attachment or independence ascribed in relation to their control over the producers. Artisans, however, were social actors who directed decisions and responded to particular contexts. The political and social identities of crafters were constructed and contested in relation to principles of identification that most likely related to their craft in complex ways. In thinking about identity and crafting, issues related to age, gender, status, genealogy, origin, and so on become important. As David and Kramer (2001) emphasise, anthropological and ethno-archaeological studies of crafting exemplify the importance of social relations such as kinship, ethnicity and gender in structuring the identity of craft producers and production. Such studies reveal that the relationship between social categories, craft identities and political processes is a complicated one that is variably and contextually negotiated, and that the implications of the materiality of this identity are not straightforward (Lyons and Freeman 2009). A rich record of studies of craft producers in African historiography and anthropology provides an important means of thinking about the deeper past, a focus that will be perused in greater detail in the following chapter.

Labour is typically divided and organised within families, within communities, and often also *between* communities based on complementary forms of craft production and specialisation. These aspects of production are inextricably tied to one another, with household production implicated and affected by the other activities that members are involved in (Mills 2007). While the household is the most basic unit for approaching the organisation of production (van der Leeuw 1977), and while household craft production has been so important in human history, the analytical approaches used in craft-production

research, which often focuses on identifying the “type” of production present, do not provide an analytical lens for addressing how crafting was part of the household system. Furthermore, there exists an array of misrepresentative assumptions about the household, according to which domestic craft production has often been erroneously represented as a part-time, unspecialised, low-volume production system of mostly utilitarian goods (Hirth 2009: 18). Archaeologists working on craft production need to consider the household in detail in order to discuss “how craft production was integrated into the domestic economy” (Hirth 2009: 13). Households may also be flexible, and made up of a myriad social relations (Hendon 1996, 2004).

This approach also suggests the importance of studying craft production in relation to other productive systems that took place within and outside the household, both in the community and in the wider region. Craft producers as well as their families and communities took part in a range of technologies and activities that interfaced and that are equally important to consider in the reconstruction of the political economy. Such an approach requires a recognition of how technologies may have been “complementary” and “intersecting” with other technologies (Hagstrum 2001: 49). It involves, in turn, a recognition of the great deal of scheduling that took place within the domestic economy (with, for example, farming and potting taking place in distinct times/seasons). Craft technologies influenced, complemented and intersected with other technologies in a variety of ways, and in thinking about multi-crafting critical consideration must be granted to cross-craft overlaps, issues of scheduling, technological borrowing, and the use of similar spaces, tools, labour and so on (Mills 2007). In this sense, approaching craft production as a whole system provides an opportunity to think about these dynamics on multiple and interlinked levels, rather than solely focusing on the producers as craft individuals isolated from the system in which they operated.

Furthermore, an approach to crafting as a whole system, and indeed the intersection of crafts with other activities, brings to light the recognition of the multiple ways persons were involved in the crafting process. Often production is gendered, based on associations of a craft with a specific gender, which obscures the full participation of both genders from the production process (Geller 2009; Costin 2013). Sometimes different individuals—children and adults, men and women—were involved in different stages of the production process,

or alternatively in complementary activities that facilitated the production process (see for example Stahl 2014). An interest in the identity of artisans must consider the full array of social relations embedded in crafting. The materialisation of identity, explored through different domains, will necessarily be an important focus of the following chapters.

Identity construction and contestation are intimately linked with power dynamics. Power is central to discussions of crafting—in particular, to questions of control over resources and persons. The enactment and enforcement of control in relation to production systems may have happened not only on a variety of scales but also in a variety of different and unexpected ways. Control may be symbolic, taxation-based (economic), or ideological. It may also have been inefficient, or varied through space and time. The complexity of relations between craft producers and political structures is significant. Typologies of production not only reduce the agency of producers but also may not adequately account for the variability in the archaeological record. Increasingly, studies of crafters in the political economy demonstrate that different production systems can exist within a complex state (Sinopoli 2003; Hirth 2009). Functionalist and socio-political explanations that govern discussions of technological choice and the organisation of production need to be critically interrogated. Environmental, social and political constraints and conditions; demand; scarcity; population demography; local, regional and global exchange relations—all these factors variably and contextually affect the organisation of production, often in interrelated ways. Approaching power relations on the macro-scale allows one to consider the mechanisms of power in greater detail, considering crafters as social actors who were engaged with and shaped the dynamics of control over resources, tools, persons, exchange networks and so on, on the micro- and macro-level. As Sinopoli (2003: 30) emphasises, “Considering craft producers as social actors requires the exploration of various related factors, the social and economic status of producers, the ideological values attributed to production, the ability of producers to effect their conditions of existence, which are all tied up in a complex and dialectical way with broader social and political factors”.

Production is interwoven with exchange and consumption patterns, from the nature of demand, to the logics of distribution, to community consumption, and so on. Approaching the role of craft goods in political economies requires a critical consideration of exchange mechanisms, distribution networks, and consumption patterns. The dominant approaches in

studies of exchange in non-Western or pre-modern societies are often problematic because of the persistence of processes of conceptual othering that distort the mechanisms of economy and interaction (Thomas 1991: 4). While exchange in non-Western/non-modern contexts is typically stereotyped within the Maussian gift economy, or in relation to Polanyi's triad of exchange, redistribution and reciprocity, there are a wide range of other exchange forms that can occur (Humphrey and Hugh Jones 1992; Smith 2004). Understanding exchange in the political economy of past societies requires an appreciation and exploration of the different exchange mechanisms that can exist, at the local, regional and global level. Furthermore, while these are often contrasted with one another as exclusive strategies (an issue taken up further in the following chapter), approaching exchange from the local scale outwards into regional, and possibly global, scales allows for a critical interrogation of the mechanisms and forms that exchanges may take.

As the opening quote to this chapter by Thomas (1991:100) suggests, producers do not determine the value or use of an object, although they may, in production, have constructed their own ideas around it. However, the social significance of craft products is created (and renegotiated again and again) in use, exchange, and curation, and approaching the meaning of these goods over time requires that we consider exchange and consumption processes in conjunction with production. A significant development in approaches to trade, and to the effect of trade on the political economy, has been an increased interest in the context of exchange, and in the creation, maintenance and transfer of value (Thomas 1991; Dietler 1998, 2010; Torrence and Clarke 2000; Ogundiran 2002; Stahl 2004, 2010). The assumptions that underlie many approaches to value in exchange are often shaped by a labour theory of value associated with the Ricardian law of comparative costs. However, economic value is not fixed, and, as Appadurai (1986: 57) has argued, exchange highlights the politics of value, evident in the broad agreements of what is desirable, what are reasonable exchanges of sacrifices, and who is permitted to execute excessive demand in these circumstances. As a result, the value of exchange items is shaped and reshaped by the conditions of exchange, use, and reuse, which varied significantly from their point of manufacture to the various hands through which they passed (Appadurai 1986; Donley-Reid 1990; Thomas 1991; Gosden and Marshall 1999; Dietler 2010; Mullins 2011).

The social role of objects requires that one critically engage with the relationship between people and things (Hodder 2011; Knappett 2012; Hendon 2015), and between artefacts and other artefacts in an inter-artefactual domain (Gosden 2005; Ingold 2007). Doing so provides a means of assessing how the incorporation of new material related to “established” cultural logics (Dietler 1998; Stahl 2002; Prestholdt 2004, 2008) and may also have led to the development of new manufacturing methods, and so on (Torrence and Clarke 2000: 12). Such questions require a biographical, contextual approach to an object’s life history, use and exchangeability (Kopytoff 1986; Appadurai 1986).

These kinds of discussions are significant for understanding exchange, and its role in the political economy. Of importance is the need to recognise that we cannot assume that exchange relations had expected results. While exchanges between political cores and peripheries, be they via regional or global exchange mechanisms, have been cast into particular models with expected results, critical engagement with the interactions between cores and peripheries and between different regions in global encounters has shown that such interactions can have varied and often unpredictable results, and that the impacts and entanglements of these can be felt differently in different areas (from the coast to the interior, from rural to urban, and so on) (Thomas 1991; Richard 2009; Stahl 2004, 2010). Interaction needs to be approached contextually, focusing on engagement and negotiation, with both parties being considered active participants. Similarly, objects crossing long-distance trade networks are typically considered in light of specific assumptions about their intended function, a set repertoire of economic values associated with them, and specific mechanisms of exchange. Not only are these often not demonstrated but assumed, they also limit the countless possible meanings and representations they might have had, as well as limit our understanding of the nature of the exchange process.

The social role of goods also provides a way of thinking about the complex relations between producers and consumers. Consumption patterns provide much-needed nuance when critically engaging with the political economy (Dietler 2010; Mullins 2011). Access to valuable objects is often seen as fundamental in the above-mentioned models of power within the political economy. However, considerations of the context of exchange and value can provide an important avenue for the critical interrogation of the categories, use, and materialisation of wealth in the political economy.

2.8 Conclusion

The above outline serves as an overview of current approaches to the political economy of the southern African Iron Age within a local and global context. This review pointed to the need to explore and expand the concepts of wealth, power and prestige that underlie models of the political economy in the region from different vantage points and using different scales of analysis. Within this context, studies that address the creation and negotiation of the political economy from the peripheries are important. With this in mind, this thesis attempts to address the dynamics of the political economy of the southern African region through the interrogation of producers and consumers—specifically through metal crafters—in regional contexts away from areas conventionally associated with the Zimbabwe culture or political centres.

Phalaborwa provides an opportunity to explore these ideas about the southern African landscape from within a distinct locale. The recent historically documented production of metals in the region facilitates an investigation into the organisation of production and regional political economy from a historical perspective. It is to this period that the next chapter turns.

Chapter Three:

Phalaborwa, where the hammer is heard: the political economy of the 18th- and 19th-century South African Lowveld

“Insistence on historical specificity is not a refusal to be analytically universal. It is one way of ensuring [the] reliability and sensitivity of analytical tools in as much as it sets the range of their applicability.” (Mafeje 1991: 7)

3.1 Introduction to chapter

The history of metal production in Phalaborwa in the 18th and 19th century is inextricably linked to and part of local, regional and global processes. The context of the Lowveld, a geographically and environmentally distinct region, provides an important locus for exploring the dynamics of production, exchange and consumption within these different scales. Geographically, the northern South African Lowveld (Fig. 3.1) is bounded by the Highveld escarpment to the southeast, separating the Lowveld from the inland Highveld plateau, the Soutpansberg Mountains to the north, and the Lebombo Mountains to the east. The history of the occupation of the Lowveld region over the last 300 years is characterised by considerable migration, interaction, and the fission and fusion of social and political identities, such as those of the Venda, Sotho, Tsonga and Lobedu, on the landscape (Junod 1927; Stayt 1931a; Krige 1937; Krige and Krige 1943; Smith 1970; Hammond-Tooke 1981; Scully 1978). Politics waxed and waned as power expanded and contracted, and shifting influences and trade connections to the south, north, east and west all contributed to a dynamic and changing political economy.

The long and sustained history of occupation is in large part an outcome of the resource abundance of the area. Examples of this abundance include iron and copper ores concentrated at localities such as Phalaborwa and Musina and salt in natural springs such as Baleni and Harmony. In accordance with the localised nature of these resources, different forms of specialised production are characteristic of the regional political economy of this time period. Phalaborwa was a landscape synonymous with copper and iron working in the

18th and 19th centuries (Krige 1937b; Scully 1978). As with other portions of the Lowveld, the occupational history of Phalaborwa is characterised by the interaction and assimilation of many migrating communities. Similarly, neighbouring communities, such as the Venda and Lobedu, exerted influence in the Phalaborwa region in a variety of ways. These interactions, and the political and social dynamics of resource production in the context of a localised source of copper and iron at Phalaborwa, remain an important avenue for addressing issues of resource control and the negotiation of power in the context of this politically layered landscape.

Social and political processes further shaped exchange and consumption patterns. The range of exchange mechanisms, from homestead barter, tribute, marriage transaction and specialised traders provide an import avenue for addressing the social context of exchange, the transfer of value, and the context of local and imported goods within the regional political economy. Against this background, the interest and focus of the present chapter involves examining metal producers in the political economy of the Lowveld in the 18th- and 19th-century historical period. It is hoped that the historically and contextually specific approach employed in this chapter will provide insights into the political economy of the earlier archaeological period.

3.2 The Lowveld in the 18th and 19th-century: general politics and setting

Some broad regional areas and groups are important to identify within the historical landscape of the Lowveld. However, it must be borne in mind that political and ethnic identities such as “Sotho”, “Ndebele”, “Venda” and “Tsonga” were related to contingent historical realities (Spiegel and Boonzair 1988; Harries 1988). The collection and recording of ethnographies of various African communities in the late 19th and early 20th century resulted in the solidification of what were fluid cultural identities. The baPhalaborwa⁵ of Phalaborwa are a Sotho-speaking community with a complicated history and identity. Ethnographers such as Krige (1937a) and Hammond-Tooke (1981) have emphasised the fact

⁵ Ba is a Sotho prefix to denote reference to the people of Phalaborwa, whereas ‘Phalaborwa’ refers to the place. It can similarly be applied to group names, such as baMalatji.

that Sotho communities in the Lowveld are a complex amalgamation of people with different ancestry. Each group is made up of sub-communities of varied ancestry who, although taking their name from the ruling lineage, retain somewhat of a distinct identity. Furthermore, as Hammond-Tooke (1981: 11) observed, “The history of South African chiefdoms is the history of their royal families”. Although the ruling group is often the minority, their history is often the only one recorded (Krige 1937b: 327), making reconstruction of other histories a difficult process.

The most in-depth and detailed academic record of the oral history of the baPhalaborwa is that produced by Scully (1978). Scully collected and synthesised a considerable amount of baPhalaborwa oral traditions, from both previously recorded fixed texts and from fourteen different informants. The oral traditions of the baPhalaborwa are dominated by the history of the Malatji ruling lineage (Scully 1978). The information relates to the period from the 1700s to the 1970s, although Scully further differentiates between period of mythical ancestors and those of known historical rulers such as Kgashane (ca 1770–1800), Mosholwane, Meele (ca 1770–1820), Makekele, Ramatladi and Paane (ca 1800–1870) (Scully 1978, 1979).

As Scully (1979) notes, a comparison of fixed and oral sources shows that oral traditions are telescoped, with additions and omissions through time, often as a result of the political context of the present. Indeed, there is considerable evidence to suggest that the name “Malatji” is a later development “incorporated into the body of tradition and then extended to an apical position” (Scully 1978: 82, 215) and grafted onto earlier events and other origin traditions (Scully 1978: 234). Furthermore, significant political struggles related to land allocation and ownership in the 20th century have considerably politicised the history of the region (Scully 1978: 52).

The territory of the baPhalaborwa in the 18th and 19th century is recorded as extending between the Lepelle (Olifants) and Letaba (Lethaba/Ritavi) rivers (Fig. 3.1), and at times may have extended further east to the Lebombo mountains (Scully 1978: 6). The baPhalaborwa oral traditions indicate that the occupational history of the Phalaborwa area was dynamic and characterised by processes of migration, assimilation, movement and interaction. While

many of the baPhalaborwa origin stories support a northern origin for the group, other stories describe a southern origin of the Malatji group and some describe their origins from the sea (possibly east) (Scully 1978: 82). Similarly, Scully noted the many contradictions in the places of origins as well as the ancestral burial places of the baPhalaborwa, observing that these reflect the heterogeneous make-up of the population as a result of different migration events into Phalaborwa and the ebb and flow of political power (Scully 1978: 92).

While evidence of the migrations of numerous separate groups into the area over the last 300 years can be glimpsed from the various indications and contradictions, pulling these migration events, as well as the identities of incoming communities, apart is difficult, since many groups were absorbed under the baMalatji authority, and their earlier identities subsumed (Krige 1937: 329). However, all traditions point to the fact that the area was inhabited by other communities before the arrival of the Malatji. There are suggestions of earlier occupation or association in the region with the Koni and Lobedu, as well as of later influences from the Pedi (Krige 1937: 336).

There are numerous references to distinct groups, such as the Pilusa, renowned metalworkers (Scully 1978: 298), and the Shokane, depicted in baPhalaborwa origin stories as the original people living in Phalaborwa (Scully 1978: 137). Many of these records hint at the diversity of the baPhalaborwa. In the later periods associated with more recent rulers, the records of immigrant communities into Phalaborwa are clearer. For example, as a result of the *Mfecane* in the 19th century, there were many migrating communities into the region, particularly Swazi and Tsonga communities.

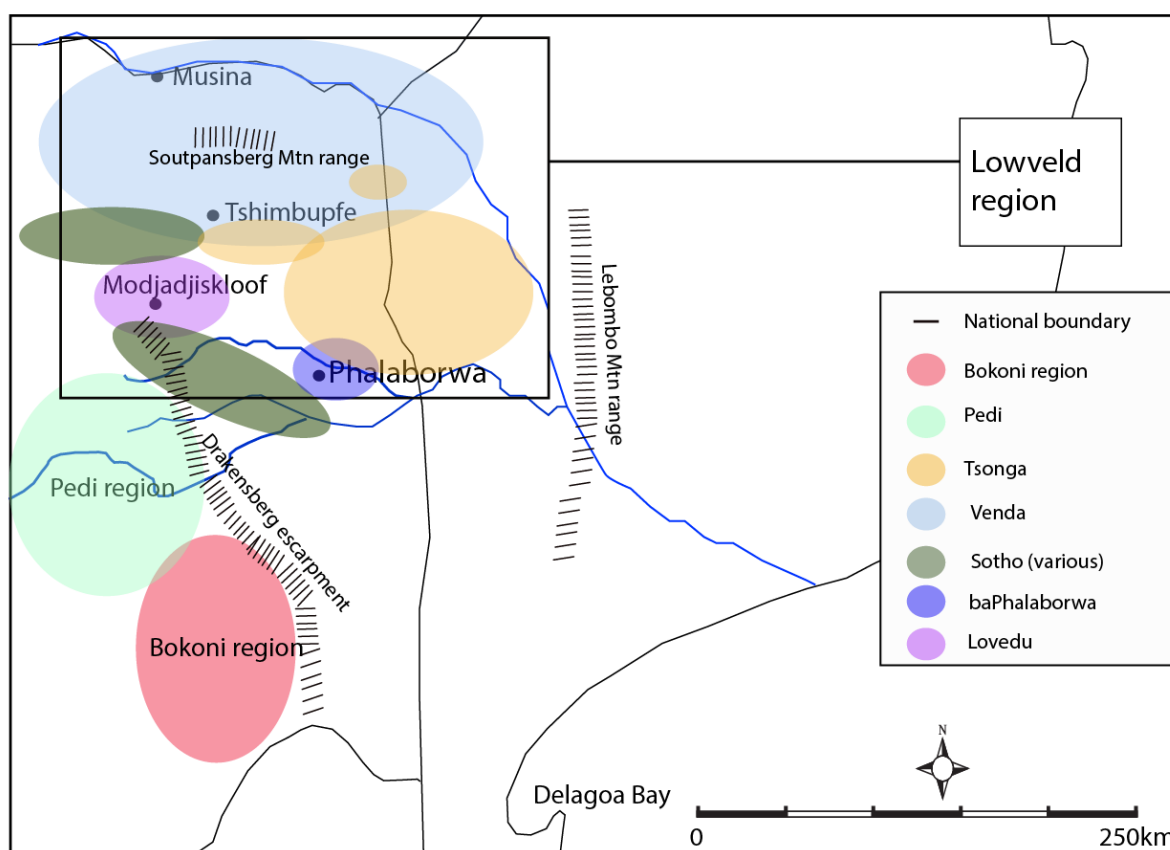


Figure 3.1 The Lowveld setting and some of the sites mentioned in the text.

Adjacent to the baPhalaborwa on the Lowveld are the Narene and the Thabina, as well as a number of other Sotho-speaking groups (Hammond-Tooke 1981). The northern part of the Lowveld, bordering the Limpopo River, has for the recent past been under various spheres of Venda influence (Stayt 1931a; Huffman and Hanisch 1987; Loubser 1991). Like many African “states” from the 18th to 19th century, the Venda state was comprised of a multitude of people that while being separated by cultural or social differentials were united by political affiliation to the Venda ruling lineage (Stayt 1931a: 13). There is some evidence to suggest that the Venda state may have yielded control over areas of the Lowveld in the 18th century. Thoho-ya-Ndou, the legendary Venda chief, is said to have ruled over a large country, writes Stayt, and some traditions maintain that he held rule over parts of Karanga (in present-day Zimbabwe) and over the Sotho (Stayt 1931a: 13).

West of Phalaborwa, the Lovedu (or Lobedu) (Fig. 3.1, Modjadjiskloof) were at times a powerful force in the region and had significant and sustained interaction with the

baPhalaborwa (Krige 1937: 332-336; Krige and Krige 1943: 306; Scully 1978). The Phalaborwa and Lobedu are closely linked historically, and relations between them regarding political ties, marriage exchanges and possibly conflict tended to vary (Krige 1937b: 337). On the Mpumalanga escarpment, the Pedi kingdom, under the Maroteng chieftaincy, was an influential political force in the region in the 17th and 18th century (Delius et al. 2012, 2014). Further south, the Bokoni polities, characterised by an “island of agricultural intensification”, flourished from the 16th until the early 19th century (Delius et al 2014: 64). Both the Pedi and Bokoni regions straddled important trade routes from the south and east (Fig. 3.1).

Tsonga communities occupied different regions of the Lowveld in the 18th and 19th centuries, both as independent communities and assimilated into larger polities (Junod 1927 Part I: 18; Smith 1970: 289). The Tsonga had a heterogeneous social and political identity and were made up of many different polities that varied over time and space (Junod 1905, 1927; Smith 1970; Harries 1989). Interaction in the Lowveld region was not limited to these polities or communities, but rather extended eastwards onto the Highveld with Sotho-speaking communities, southwards into KwaZulu-Natal, and northwards into Zimbabwe, with this extension facilitated often by regional exchange mechanisms, movement, and migration (Bryant 1949; Beach 1980; Parsons 1997; Hall 2010; Delius et al. 2014). Another important regional factor were the European merchants visiting Delagoa Bay and Inhambane (Fig. 3.1). Inhambane and Delagoa Bay, although the site of trade in earlier years, were formally occupied by the Portuguese in the 16th century and became important trading ports on the East African coast from the 16th to the 19th century, due both to the mercantile interests of Europeans and to the trading strategies of African communities in and around the bay area (Smith 1970; Hedges 1978; Newitt 1995).

3.3 Resource distribution: control, supply and demand

Resource gradients in the Lowveld, in sources of iron, copper, soapstone deposits, arable land, suitable cattle-grazing areas, game-hunting regions and salt sources, to name a few,

facilitated production differentials. Areas of the Lowveld, such as Phalaborwa, were known to have at times in the past been plagued by the tsetse fly (*genus Glossina*), a vector for nagana and sleeping sickness that made keeping cattle difficult (Krige 1937; Cartwright 1974; Scully 1978; Miller et al. 2001). Similarly, poor soils and low rainfalls in areas of the Lowveld may have inhibited sustained and successful agriculture, and were also factors that may have influenced utilisation of different production and exchange strategies such as hunting, trade, and the use of wild foods (Krige 1937a; Cartwright 1974; Scully 1978). In contrast to this region of the Lowveld, in the Lobedu region higher rainfall and good agricultural land facilitated an economy tied strongly to agriculture, which both men and women participated in (Krige and Krige 1943: 42). Similarly, salt springs at Baleni facilitated the seasonal exploitation of these resources by part-time specialists (De Vaal 1984; Antonites 2013).

These biophysical differentials, such as the distribution of iron and copper ores, were negotiated through social and political relations, variously touched on in this chapter, which shaped the organisation of production. In the Lowveld, the history of metal production for the 18th and 19th centuries is closely tied to forms of social and economic specialisation. Specialist metalworking communities consisted of the Venda metalworkers of Tshimbupfe, the Lemba and Musina clans of the Soutpansberg region, and the baPhalaborwa communities (Junod 1927; Stayt 1931a; De Vaal 1942; Scully 1978; Davison 1984; Harries 1994).

Venda metalworkers were known for the production of iron that was exported regionally and that supplied many coastal communities to the east (Beuster 1879; Stayt 1931a, Miller et al. 2002). Historical records collated by E.D. Giesekke in the early 20th century detailed the exploitation of iron ores by metalworkers in Tshimbupfe (Fig. 3.1), an area well known for iron production (Miller et al. 2002). Various historical records suggest that iron was smelted by specific people in the community who practiced that craft, and who made a living out of it, retaining some iron for their services (Stayt 1931a, 1931b; Mamadi 1940; Miller et al. 2002; Mathoho et al. 2016). Differential task distribution was an important feature of iron working in this region. In particular, the work of smelters, smiths and transporters differed, and Giesekke's account emphasises the fact that they even had

different terms for the same metals, and had different songs, those of the smelters being different to those of the “iron carriers” (Miller et al. 2002).

As in other parts of Africa, smelting technology and metalworking in southern Africa were historically also deeply embedded in the social realm. Historians and ethnographers in the Venda regions documented taboos and prescriptions around metalworking processes (Stayt 1931a; Mamadi 1940; Miller et al 2002; Mathoho et al. 2016). Iron working was facilitated by kinship structures, with production closely associated with lineages of particular groups in the Tshimbupfe area, whose political identity was linked to their status in relation to iron production (Mathoho et al. 2016: 5). Historically, it does not appear that Venda rulers controlled the production of crafts. Clans and lineages working in the Tshimbupfe area, while under the influence of the Venda polity, did not produce or exchange directly with or exclusively for them.

The Lemba, more closely associated with copper working, have, however, also been recorded to have historically worked iron in the Venda region (Stayt 1931a: 59). The identity of the Lemba communities of the Lowveld is closely linked to their skill as metalworkers, potters and traders. Untangling the history and ethnography of the Lemba (or “Remba” in Shona) is difficult, as the Lemba have been subject to much mythologising and romanticising. A Jewish/Semitic origin for the Lemba, and a fascination about their “otherness”, dominated early descriptions of the Lemba, with traveller accounts and ethnographies frequently likening the Lemba to wandering Jews (Junod 1908; Stayt 1931a; Thompson 1949). This identification was largely the result of distortion on the part of interpreters, who categorised the Lemba through the lens of familiar social identities, of which the Jews represented the most well-known and historical example (see Ruwita 1997 for a more extensive critique). The mystical identity of the Lemba gained renewed interest in the 20th century, fuelled mainly by genetic studies, most of which are highly controversial (Thomas et al 2000). The result has been the popularised notion of the Lemba as the “lost tribe of Israel” (e.g. Le Roux 2003, Bruder and Parfitt 2012).

Beyond this speculation however, the identification of the Lemba as a social and political group whose historical identity relates to their metalworking skill clearly has a historical genesis and reality. Lemba communities lived across regions of the Lowveld and in southern Zimbabwe, and were often closely associated with metalworking—in particular copper, as well as trading and potting (Junod 1908; Jacques 1931; Stayt 1931a; Hammond-Tooke 1981; Jackson 1981; Loubser 1991). Early anthropologists referred to the Lemba as the “bangle and bead makers of the Northern Transvaal” (Hornlé 1931: 255), the “copper miners and workers on the Lowveld” (Thompson 1949: 11), “metal smiths” (Jackson 1981: 34), “craftsmen” (De Vaal 1942: 48), and “metal workers and traders” (Jacques 1931), renowned for their “skill as specialist metalworkers” (Davison 1984: 171). Junod (1908) and Stayt (1931a) stressed that the Lemba were, among other things, specialist copper workers, and both scholars gave detailed descriptions of the copper work of Lemba smiths. A Lemba man detailed the process of copper smelting for Stayt (1931a: 59), while Thompson (1942, 1949) elaborated on the copper working of Lemba smiths in southern Zimbabwe, who described the forging of portions of *musuku* ingots into copper ornaments.

Pot making is another craft closely association with the Lemba, in particular the baLemba women of the Lowveld (Stayt 1931a: 51; Thompson 1942: 2). Stayt (1931a: 51) noted that, although Venda women made pottery, the baLemba were also known for their skill in this craft. Junod (1908: 279) discussed the skill of Lemba potters, known to have made “splendid” pottery. Similarly, Jackson (1981: 131) noted that the Lemba living in small groups among the Ndebele of Langa were “the potters of the chiefdom.”

The appearance of the Lemba in the Lowveld is linked to the Singo (a ruling Venda clan) incursion into the Venda area in the 17th century. Venda oral histories point to the movement of the Lemba into the Lowveld with the Singo in the late 17th century, and describe a close relationship between the Lemba and Singo (Loubser 1991: 391,414). Similarly, Mahumane’s 1731 account notes the recent migration of the Lemba into the Venda region from the north of the Limpopo. Based on Mahumane’s account, Liesegang suggested that “they did not come as ‘peddlers’ but as political refugees” (Liesegang 1977: 174). Many Lemba in the 19th century lived in small communities in enclaves of Venda, Lobedu and Sotho political spheres, providing these communities with metalworking and

pottery (Jackson 1981; Davison 1984: 171). Stayt (1931a: 18) recorded that the Lemba lived in small villages or “single kraals” throughout the Venda region, particularly in the west.

While the Lemba were a closely organised group of craftspeople, in many ways resembling specialist full-time producers, they were not “attached” and retained a significant degree of independence. Although dispersed among other communities by the late 19th century, the Lemba appear not to have identified culturally or politically with the ruling lineage or group whose area they occupied. Junod (1908), Jacques (1931) and Stayt (1931a) described the baLemba as a politically and socially distinct group, differentiated from other Venda and Sotho, and noted that the Lemba had their own language, clan names and totem. The Lemba appear to have been politically organised into “exogamous groups of varying size and importance” (Stayt 1931b: 233) who practise cross-cousin marriage. Although there was a strong emphasis on endogamy among the Lemba, various rituals allowed men and women to marry outside the community (Junod 1908: 285; Jacques 1931; Stayt 1931b: 233-234). Lemba metalworkers in the Venda region paid tribute in copper to chiefs and rulers, and women and men were reportedly exempt from communal tasks such as working in the fields (Stayt 1931a: 62). Similarly, Thompson (1942: 1) wrote, “Although the headquarters of the tribe [have] been in the Belingwe district [southern Zimbabwe] for a very long time, they have always been a roving people, and formerly were to be found where their old mine workings are still to be seen, living under the protection of chiefs of other tribes, to whom they pay tribute” (Thompson 1942: 1). Jackson’s (1981) description of the Ndebele of Langa covers many Lemba households in each ward. Jackson notes that, unlike the Tsonga migrants living in the communities, these households do not have a sub-headman, a clan, or an origin. Instead they are strongly identified with their craft.

The Lemba have been associated with a well-documented locale of copper production in the Lowveld, Musina (Fig. 3.1). Along with Phalaborwa, Musina was the other main copper-producing region that fed into regional trade networks in this period (Mamadi 1940; Scully 1978; Loubser 1991). In the 18th and 19th centuries, Musina mostly fell under the sphere of Venda influence and rule. Stayt (1931a: 64) noted that the Lemba were responsible for copper mining at Musina, under the “protection and patronage” of a Venda chief, Makhusha. A different version of copper mining at Musina was recorded by Mamadi (1940).

Mamadi recounted how the copper miners of Musina originally came from the east and settled in Phalaborwa. Here they found iron ore contaminated with copper, which weakened the iron, hence the name Musina: “something that spoils”. As a result they moved to Musina and established themselves as copper workers, trading copper for foodstuffs with their neighbours (Hanisch 1974).

Similarly, in Phalaborwa (Fig. 3.1), iron and copper production was a central economic activity, and Phalaborwa was well known as a source for metal manufacturing (Krige 1937; Scully 1978). The centrality of this activity is signified in the poem of the Musina clans: “Phalaborwa, where the hammer is heard, the lowing of cattle is not there, the hammer resounds” (Mamadi 1940: 81). Metalworking forms a principal component of the historical economy of Phalaborwa. In the “origin stories” of the Malatji, the ability to produce metal is emphasised. In the dominant version of the story, the Malatji arrived to find the area already occupied by the Shokane at Lolwe Hill. The Shokane are described as primitive and, in some texts, as unable to cook food (because unable to make fire) and as possessing no chief. The Shokane attempted to demonstrate their power by surrounding Lolwe Hill with copper beads, but they did not have enough beads to do so and were defeated by the Malatji, who had the ability to create fire. The Malatji thus became the rulers of the area (Krige 1937a: 336; Scully 1978: 69-73). The emphasis on the Shokane’s primitive status and the superiority of the Malatji’s metallurgical expertise is clear in most accounts of the Shokane in the origin stories (Scully 1978: 137). The origin stories further detail the development of iron production at Phalaborwa. In another version of the baPhalaborwa’s origins, the early settlers found iron at Lolwe Hill and began producing goods for trade with neighbouring communities in exchange for sorghum (*mabele*): “They began making mabele (hoes), the old type with a point” (Scully 1978: 130).

The baPhalaborwa oral traditions indicate that, at various times in the history of Phalaborwa, the production of metal was closely associated with particular lineages. These varied through time and in relation to different rulers, but three particular groups—the Malesa, Pilusa and Nkwane—were renowned. According to Scully, the Malesa are an old Venda group who predate the arrival of the Malatji (Scully 1978: 165). They trace their ancestry to Bokgalaka and Venda, and changed from the phala (Venda) totem to the

tchwere (porcupine) totem. Interestingly, they were linked to the Pilusa group by preferential marriage ties, and they have close marriage ties with the ruling Malatji class (Scully 1978: 186).

The Pilusa are recorded as well-known ironworkers and rainmakers, and feature prominently in the Malatji origin stories. The Pilusa were a distinct Phalaborwa group until recently; they may pre-date the Malatji and instead be associated with the Koni period (Scully 1978: 223,298). In one version of the Malatji origin:

“A certain man called Pilusa is said to have arrived at Phalaborwa (apparently after Malatji) and began digging holes for iron ore and he becomes an iron worker in the area. Pilusa is followed by a man called Nkwane Malatji. Together Pilusa and Malatji start a large scale iron working industry and hire people to do the work for them. It is at this time that axes, hoes, spears, and knives are first produced. It is this work that gives rise to the Pilusa and Nkwane name praises: “I am the one who licks (malatswa) the iron of Pilusa. I am Nkwane who dispenses spears of the kind used to stab people”. (Scully 1978: 71)

Specialist smiths were known to have monopolised the production of hoes at times in Phalaborwa (Scully 1978: 254). The Nkwane were a powerful faction in the past, and are described as important councillors. They also held a monopoly over spear production and may be of Swazi origins, deliberately coming to Phalaborwa to take control of metal production (Scully 1978: 287). Scully writes that the Hlame, who had trade links, may have traded their spears to the Swazi in the east. The Hlame were specialist traders who appear to have been in Phalaborwa before the Malatji (Scully 1978: 246).

Tsonga groups that settled in Phalaborwa in the 18th and 19th century, if not earlier, were also known for the production and trade of metals. In the Phalaborwa oral history, as recorded by Scully, there is mention of Tsonga connections and movement into the region at various times over the last 200 years. For example, in the early period of occupation, associated with one of the early Malatji rulers Kgashane (ca 1770–1800), there is evidence

of contact with the Tsonga (Scully 1978: 276-279). The Magwamba-Tsonga were a distinct Tsonga community who arrived and settled in the east of Phalaborwa in the 19th century. This strategic location along Phalaborwa's eastern boarder facilitated the community's role as traders and hunters. The Hlungwane (referred to by Scully as the Mahlongane-Shangana), are thought to have entered Phalaborwa from an early period (the 18th/19th century) and appear to have had a long association with the baPhalaborwa as metal traders and possibly producers (Scully 1978: 51, 53-54). The Hlungwani are remembered for elephant hunting, and trading in metal wares (Scully 1978: 168, 196, 333).

Various outside immigrant groups appear to have settled in Phalaborwa to work metals. For example, in the Makikele period (in the 1800s), a time of the Swazi, Zulu and Tsonga wars in which there was an expansion of power out of Phalaborwa under Makikele, "metal experts from outside settled at key villages to produce their wares" (Scully 1978: 319). Power dynamics clearly shifted through time, and there is evidence to suggest that various Malatji lineages and factions had only a loose and possibly localised influence over power relations in areas of Phalaborwa over time. Malatji lineages such as the Makuasane (sometimes written as Makuashane), the Maseke-Malatji, the Majaji-Malatji and the Bashai had spheres of influence in Phalaborwa and the surrounds (Scully 1978; Pistorius 1989). Certain sites with evidence of copper and iron production dating to the last 300 years are historically associated with these lineages (see Chapter 4).

Although the oral traditions of Phalaborwa remain fairly inconclusive regarding the methods of control over resources, the exploitation of copper and iron production, as outlined above, was clearly in some periods not always directly associated with the ruling lineages. Ruling Malatji lineages may have benefited from the extraction of tribute and taken a percentage of the finished production (Schwellnus 1936; Scully 1978: 69), as certain ruling powers were wont to do (Scully 1978). However, direct "control" over production appears to have been primarily related to the symbolic realms, with groups in the ruling lineage seen as rightful "firstcomers".

3.4 Exchange and consumption within the context of local, regional, and global interaction spheres

Consumption patterns in the Lowveld and the wider surrounding region are particularly illustrative of the historically specific organisation of the economy. Items such as copper and iron and alloys such as brass were historically of high social value for many communities in southern Africa. Indeed, European visitors to southern Africa's shores, as well as early travellers and ethnographers, commented on the high demand for copper and its alloys (Junod 1927; Stayt 1931a; Bryant 1949; Davison 1984; Axelson; Hedges 1978; Newitt 1995). Brass, an alloy of zinc and copper, was manipulated using indigenous techniques similar to those employed in copper, iron, bronze and gold working (Thondhlana and Martín-Torres 2009), and brass and copper were closely related in the symbolic schema of many southern African communities. Copper and alloy objects such as bronze and brass were used to make bracelets, arm rings, neck rings and leg rings; they were highly popular forms of adornment for women, worn on their arms, ankles and legs, and were therefore closely associated with beauty (Junod 1927; Stayt 1931a; Ellert 1984; MacGonagle 2007; Chirikure 2015). Across the Lowveld, copper wire was shaped by coiling it around a vegetal core into arm and neck rings. Copper beads were strung or sewn into clothing, and solid arm rings and neck rings were also widely popular (Junod 1927 Part II: 102; Stayt 1931a: 58; Davison 1984: 167, 179).

Any approach to these social values must take into account the construction and negotiation of value through a wide range of relations and uses. Copper items also played an important role in many rituals and exchanges and their use as adornment, in puberty rites, marriage exchanges, and rituals linked to status and personhood is well documented (Herbert 1993). Among Tsonga communities, copper and brass rings worn on the arms, ankles or necks "were a sign of distinction and were used as a medium of bride-wealth and tribute payments" (Junod 1927 Part I: 275; Harries 1994: 15-16). Earthy (1933) emphasised the high value of brass rings—*tibhetu*, *titlatla*, and *masindza*—in bridewealth exchanges in southern Mozambique: "When used for *akulobola*, the *masindza* were tied up in a bundle, and the father of the girl sought in marriage would use them to *lobola* another wife for himself or for one of his sons" (Earthy 1933: 137). In Phalaborwa, bridewealth and tribute

were paid in copper (Scully 1978). Lindblom recounted that, “in days of yore, according to tradition, a wife could be bought for five of these copper rods, while in exchange for a single rod, two head of cattle were given” (1926: 145).

Copper was also formed into “ingots”, of which different shapes and forms were associated with different regions of the Lowveld. The production of *lerale* (Fig. 3.2 and 3.3) is closely associated with the baPhalaborwa metalworkers (Junod 1908: 280; Junod 1927 Part II: 140; Stayt 1931a: 68; Schweltnus 1937: 911; Thompson 1949: 12; Hanisch 1974: 252). *Lerale* (pl. *marale*) are copper objects shaped into a golf-club form, around 50cm long with a knob at one end, which may have protruding stubs on it (Hanisch 1974: 252). The value and symbolism of *lerale* are poorly understood, and while early records often described them as a form of “currency” (Junod 1927 Part II: 140), there remained an awareness of their deeper symbolic significance (Verwoerd 1956). As Verwoerd (1956) and More (1974) noted, *lerale* have been closely associated with both bridewealth and currency, but the functionality of the design, as with *musuku* ingots, is still a source of wide speculation. Stanley (1937) suggested that the shape had a functional purpose, linked to its utilisation in wire drawing.



Figure 3.2 Musuku (left), diamond-shaped hoe (centre) and lerale (right) (Scale in cm).

In the northern Lowveld and closely associated with Venda communities, another form of the copper “ingot”, the *musuku* (Fig. 3.2 and 3.3), appears to have been manufactured and traded in the region historically. The *musuku* ingot has been variously described as

possessing a “top hat” or a “baobab” shape. Two types of *musuku* ingots, one hollow and the other solid, are known. They were used for the manufacturing of various copper ornaments (Thompson 1949: 12), although it has been suggested that the hollow ingot had a ceremonial function (Hanisch 1974).

Copper items, such as *lerale* and *musuku* ingots, as well as various forms of bracelets, were often used as part of the insignia of royal office (Stayt 1931a: 68; Junod 1927 Part 1: 385; Bryant 1949: 591). In the 19th century in the Lowveld, locally manufactured copper items embodied important ancestral connection and were kept as heirlooms, handed down through generations (Davison 1984: 176; Stayt 1931a: 68). In Phalaborwa, *lerale* were reportedly used in exchange, with a special *lerale* belonging to the chief’s *dithokgolo* (chiefly amulets) (Scully 1978).

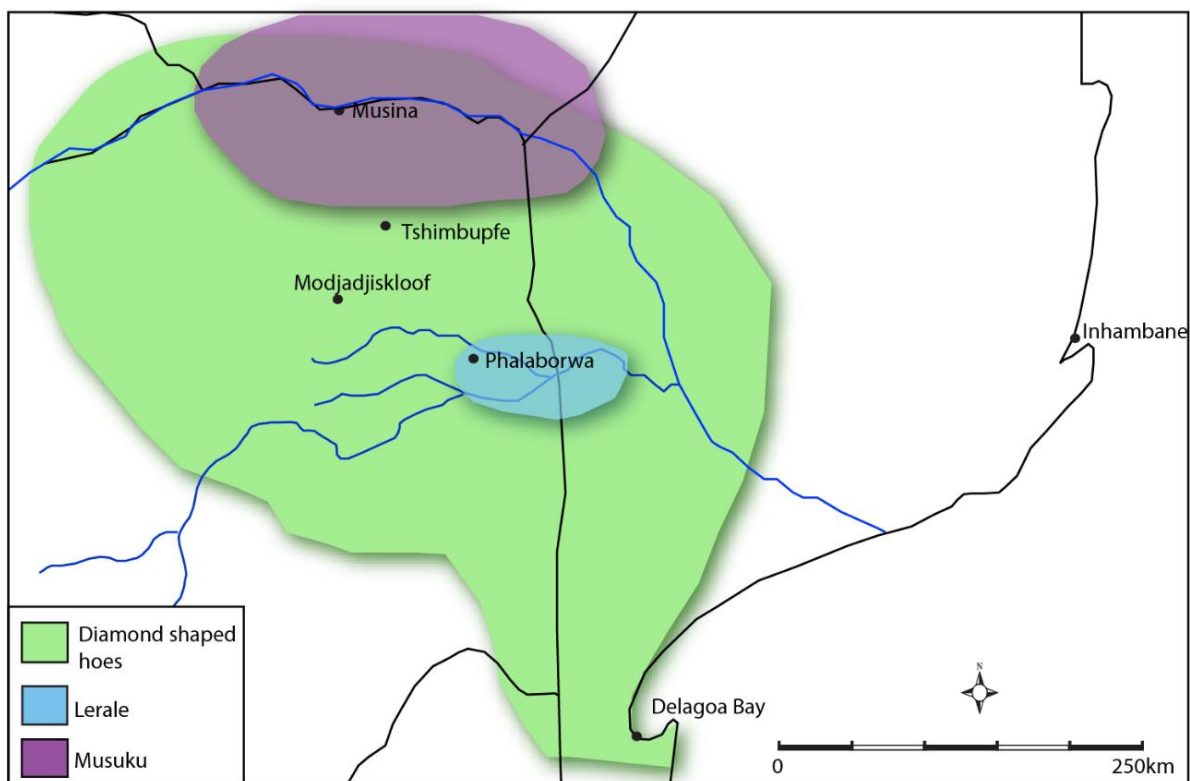


Figure. 3.3 Approximate distribution of different metals produced in the Lowveld. Note that one tin *lerale* ingot was found in the Soutpansberg (Miller 2010: 48) and the distribution of metals in Mozambique is not well documented.

Iron items, such as hoes (Fig. 3.2), axes and spears, were also highly valued items of consumption, used in a variety of ways in the historical period. Hoes were used in agriculture, as a store of wealth, in ritual, in marriage exchanges, and as heirlooms (Junod 1927; Stayt 1931a; Scully 1978; Davison 1984; Hammond-Tooke 1981). The uses of copper and iron items in the recent past in the Lowveld and adjacent regions highlight the complexity of the values associated with these metals. Used in the disparate contexts of bride wealth, interactions with ancestors, and status signification on various levels, these items clearly articulated a range of associations linked to fertility, ancestry, beauty, wealth, and so on.

The uses and values of metals allowed them to facilitate particular long-term social transactions (Parry and Bloch 1989: 24), which in turn established obligations relating to the continuity of fertility, reproduction and the social order (Bullock 1927, Junod 1927, Krige 1939, Holleman 1952, Scully 1978, Ellert 1984). Metals, such as iron hoes, were widely used in various avenues of the law (Krige 1939; Holleman 1952: 34) and also in transactions with ancestors (Lan 1989). One must, however, remain aware that the value of metal items in the past may likely have fluctuated through time, and was contingent on contextual, historical realities. Thus, for example, imported European manufactured hoes did not have the same value as locally smelted iron hoes (Stayt 1931a).

The consumption of diamond-shaped hoes, copper *lerale* ingots and many other metal items in different social contexts is directly relevant when considering the exchange patterns thorough which these items circulated. There were a number of ways and scales in and through which goods were circulated in the Lowveld—within homesteads and regions, and into trade networks that linked areas of the interior to coastal ports such as Inhambane and Delagoa Bay. The mechanisms of exchange in the historical period in the Lowveld were varied, with a myriad of strategies in place. These overlapped and often complemented one another, and were clearly embedded in social and political relations. In the context of the Lowveld and the wider region, security through ties of reciprocity and exchange was necessary not only for survival in mitigating economic gradients but also for social reproduction.

Production took place for different scales of exchange and trade. Within homesteads, items of local produce were bartered in exchange for other goods. The Lobedu potters exchanged pots traditionally for grain or small tasks (Krige 1941; Davison 1984: 32). Within many communities across the Lowveld and its adjacent regions, specialised smiths residing in local communities would exchange metal wares as barter for other domestic products (Hunter 1936; Marwick 1940; Mamadi 1940; Bryant 1949; Mönning 1967). Work and labour were also exchanged, and Krige (1939: 415) noted that historically Lobedu men would travel long distances (to the Tshimbupfe area) to fetch ore, which on return they took to local smiths in exchange for iron hoes to offer in marriage. Similarly, in Phalaborwa, if a man did not have enough hoes, he could work with a smith and over time earn enough to allow him to marry (Du Toit 1968: 60). Tasks may have included transporting ore, or fetching wood for charcoal (Verwoerd 1956). Young Venda men and women also travelled to areas such as Tshimbupfe, and exchanged ore for grain (Miller et al. 2002).

Trading and exchange also took place in regional exchange networks (Mamadi 1940; Marwick 1940; Mönning 1967; Scully 1978; Delius et al. 2014). In many regions, domestic manufacture was often supplemented with or supplanted by trade from other regions. Widespread trade routes linked different regions of the Lowveld and the adjacent Highveld and extended to the East African coast (Mönning 1967; Evers 1974; Smith 1970; Harries 1994; Delius et al. 2014). Along with locally manufactured goods, such as copper, tin, grains, salt, ivory, cattle, and other domesticated animals, imported goods such as glass beads and cotton cloth traversed these trading routes.

Phalaborwa was central to trade routes that linked the escarpment to the Lowveld (Delius et al. 2014: 38) as well as trade routes that went from the coast to the north (Scully 1978: 30) (Fig. 3.4). A northern trade route ran from the Lowveld region through Tshimbupfe to Parfuri and along the Limpopo all the way down to the east coast, connecting Phalaborwa to the Venda heartland (De Vaal 1942: 48). Iron and copper, given the high demand for both metals, featured strongly in inter-regional exchange. Metals from Phalaborwa were exchanged in regional networks that linked neighbouring communities and that also extended to the Mpumalanga escarpment, the southern Highveld, the Limpopo basin, and

the coastal plains of Mozambique. Intensive agriculture in areas such as the Bokoni settlements on the Mpumalanga escarpment required large amounts of iron, predominantly in the form of hoes (Mason 1962; Delius et al. 2014). There is no evidence for metal working in this region and it would likely have been supplied from Lowveld producers such as the baPhalaborwa (Delius et al. 2104). The Maroteng chieftaincy of the Pedi kingdom to the north of Bokoni may have played an intermediary role between metal producers from the Lowveld, on the one hand, and communities such as the Bokoni to the south and those on the Highveld to the west, on the other (Delius 1984: 14, 17).

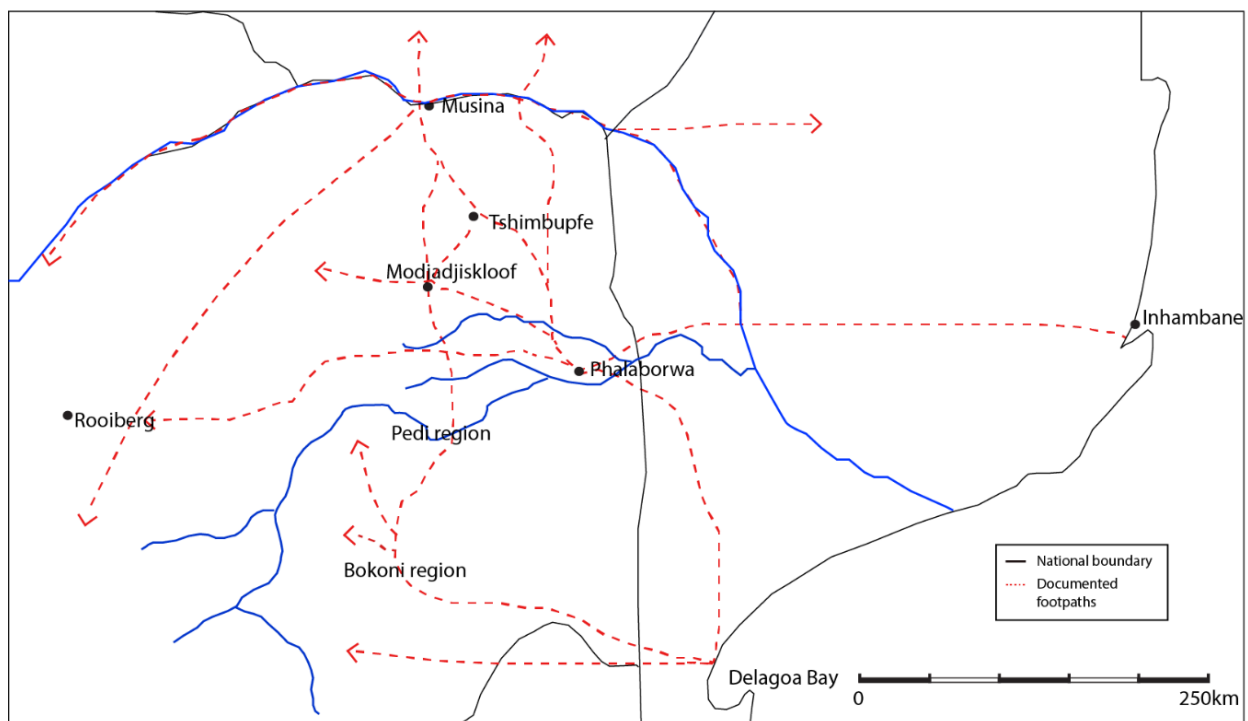


Figure 3.4 Some of the well-known footpaths that linked different regions of the Lowveld and adjacent areas. Map adapted from Scully (1978), De Vaal (1984), Coetzee and Schoeman (2011) and Delius et al. (2014).

Similarly, metals from the Venda region were exported in large quantities. This was traded eastwards, as far as present day southern Mozambique, to Tsonga communities and other non-metal producing communities, in return for grain and livestock, beads, cloth and other

items (Junod 1927 Part II; De Vaal 1942). The regional trade in metals was also present further north in Zimbabwe, where specialist metal workers, such as the Njanja in east-central Zimbabwe, were also known to have produced high-quality iron hoes that were traded over a large distance in the 18th century in exchange for cattle, goats and ivory (Beach 1977: 49). People also travelled long distances to the Njanja to exchange goods for hoes.

The mechanisms through which some of these regional exchanges took place are likened to barter, although the importance of the social networks established through exchange should not be overlooked. Musina copper workers traded copper for foodstuffs with their neighbours (Mamadi 1940). Similarly, in Venda, De Vaal (1942: 48) has noted that “women would take sorghum in baskets to Chimbufuwe [Tshimbupfe], exchanging it for iron ore, and they would then take this to several different forges in the district”. The baPhalaborwa neighbouring communities, such as the Tlhabine and the Lovedu, obtained their ore and metals from the Phalaborwa, likely in return for cattle and grain (Du Toit 1968: 60; Davison 1984).

Metals also circulated in other spheres of exchange, and throughout the Lowveld metalworkers paid tribute and parts of the share of their profits with their produce. Copper *lerale* ingots were paid to Malatji in tribute (Scully 1978: 68), and Lemba metal workers paid tribute in copper to chiefs and rulers (Junod 1908: 285; Stayt 1931a: 62). Ordinary people also paid tribute in goods they received in exchange. In the Venda region, annual tribute was paid in, among other things, iron hoes, and Tsonga traders in the Lowveld also paid a percentage of their profits in tribute (Junod 1927 Part I: 18; Smith 1970: 289). In the Delagoa Bay region, copper and brass rings worn on the arm, ankle or neck signified distinction and were used for bridewealth and tributes (Harries 1994: 15).

Regional political ties were often expressed through marriage relations. Marriage exchanges were one of the largest types of exchange in pre-industrial economies (Krige 1939; Mönning 1967). Inter-regional marriage facilitated the flow of goods from one region to another and established social and political connections between communities. Marriage exchanges, commonly referred to as *lobolo* or *ilobolo* (noun), were not merely economic exchanges, but

were fundamental in the creation of a chain of rights, obligations and connections between people (Krige 1939; Kuper 1982). The baPhalaborwa married in different areas so as to facilitate alliances that would allow goods to flow between communities, such as metals for grain and cattle. According to oral tradition, “Daughters and sisters of Makikele were sent as wives to foreign places: Bolobedu, Thabina, Mametsha, Venda, Machete, and wives were married from the major political centers in the domain” (Scully 1978: 338). In the 19th century, metals formed a large part of the economy and were important in social transactions in Phalaborwa. In matters of bridewealth, “it was not the custom in Phalaborwa to drive cattle from the kraal for bride payment, we used to marry by means of giving hoes” (Scully 1978: 303).

Another important mechanism through which regional trade was conducted was itinerant traders. Specialist trading groups acted as intermediaries between the coast and the hinterland, as well as among interior communities, travelling and exchanging goods over a wide area (Stayt 1931a; Smith 1970; Junod 1927; Mamadi 1940; Parsons 1997). A number of specialist traders and middlemen, traded across southern Africa. Trade between the Swahili and later Portuguese merchants and the interior communities of the Zimbabwean plateau was facilitated by local intermediaries known as *vashambadzi* (Mudenge 1988). *Vashambadzi* were itinerant traders who would travel from village to village, bartering their merchandise. *Vashambadzi* visited and traded directly at the mines in different regions of the Zimbabwean plateau and facilitated gold trade with the coastal ports (Bhila 1982; Mudenge 1988). Part of the profit of this trade, like that of agriculture, was paid in tribute to local chiefs, and further redistributed through a system that was sustained by kinship networks.

In the Lowveld, the Lemba were known as *vashavhi* and traded across the southern Zambezi area (Mamadi 1940: 62). They were known by the Tsonga as Bashavi (*šava* means “to buy” in Tsonga) (De Vaal 1942: 48). There is some evidence to suggest that the baLemba travelled throughout the region, as well as to the coast, to exchange copper, ivory, tin, bronze, foodstuffs and other items for imports (Stayt 1931a: 18, 27; Jacques 1931; Thompson 1942: 2; De Vaal 1942: 48; Hedges 1978: 93). This trading pattern may have a longer historical

genesis: in Mahumane's 18th-century account, for example, the writer noted that the Lemba did considerable trade with the Portuguese at the coast (Liesegang 1977: 171).

Within the Lowveld, Tsonga traders also played an important role in the facilitation of goods between communities. Tsonga communities from the eastern coastal regions were particularly closely associated with trade in hoes, copper ingots, bracelets and other local produce (Junod 1927 Part II: 140-143). Tsonga traders are recorded historically as travelling and trading regularly at Inhambane and even at distant Sofala (Smith 1970: 287). They are known to have travelled, in the early 19th century, as far as Kaditshwene, near modern Zeerust in central South Africa, and to Zulu communities south of Delagoa Bay, trading in metal items (Bryant 1949; Parsons 1997). Tsonga communities settled in many areas of the Lowveld as early as the 18th century, and facilitated much of the regional trade there (Junod 1927 Part I: 18; Smith 1970: 289; Mamadi 1940; Parsons 1997).

Exchange relations across many regions of southern Africa were extended through merchants visiting coastal ports and connecting the interior with producers and consumers from the wider Indian Ocean region. The antiquity of the links between the Indian Ocean trade networks and southern Africa, as outlined in Chapter 2, date to the terminal first millennium. Trade conducted via Swahili merchants stretched south of Sofala, to the Sabi/Save River, a port of entry into the interior (Newitt 1995: 151). The Portuguese further recorded a "sheikh" at Inhapula, south of Inhambane, in 1589, suggesting that the Swahili merchants may have travelled further south along the coast (Newitt 1995: 151). From the 17th century, the main ports through which external trade was conducted in southern Africa, south of the Save river, were Inhambane, Delagoa Bay, and, to a lesser extent, the mouth of the Limpopo river (Newitt 1995: 161; Smith 1970: 278). Inhambane, which was likely used prior to the Portuguese by Swahili merchants, was from the mid-16th century one of the main ports for Portuguese exchange on the Mozambican coast. Merchant ships visited Inhambane annually and in 1731 occupied the bay permanently (Smith 1970: 278; Newitt 1995: 161). Over the course of the 18th century, large quantities of ivory, and many slaves, were exported via Inhambane. By the second half of the 18th century, Inhambane surpassed exports at Sofala, which itself was declining, and was the second most important

Portuguese port after Sena for ivory exports, with slave exports becoming an important part of trade too (Smith 1970: 278).

Portuguese ships travelling south to Inhambane and Delagoa Bay also stopped at the mouth of the Limpopo River (Newitt 1995: 153). While there are no historical records of Swahili maritime contacts at the Limpopo River Mouth or at Delagoa Bay, it is likely that contact may have occurred in earlier periods (Newitt 1995: 151). From the mid-16th century, the Portuguese began trading at Delagoa Bay fairly regularly, travelling to the bay annually or biannually to trade, with the main export being ivory and other items such as rhino horn and amber (Smith 1970: 270; Hedges 1978: 109; Newitt 1995: 154, 162). In the mid-18th century, trade increased at Delagoa Bay, largely as a result of competition between European merchants, with the English also proving to be a powerful trading force (Hedges 1978: 130; Smith 1970: 271). In 1790, the Portuguese established a permanent settlement in Delagoa Bay, thus resulting in exclusive control over trade in the region which in turn led to a period of decreased activity until the mid-19th century (Hedges 1978). Delagoa Bay remained an important port for the export of slaves until the middle of the 19th century, and of items such as ivory throughout much of the 19th century (Newitt 1995: 327).

Copper produced in the Lowveld regions was an item in high demand by local communities in the coastal regions (Hammond-Tooke 1911: 84; Junod 1927 Part II). In 1498, Vasco da Gama anchored in the mouth of what was presumably the Limpopo River, which he named the “Rio de Cobre” (River of Copper), after the many copper ornaments worn by people in the region on their arms and legs and twisted into their hair (Herbert 1993: 109; Bisson et al. 2000: 83). This copper was likely coming from inland communities in the Lowveld (Hammond-Tooke 1911; Junod 1927). Later Portuguese traders also noted an already-expansive long-distance trade in copper to the coastal regions (Newitt 1995: 154). Dutch settlers, who established a station at Delagoa Bay between 1719 and 1730 under the VOC, similarly remarked on the large amount of copper being exchanged in the area, along with imported British brass, which was preferred over the heavy Dutch copper (Smith 1970: 272). Copper was also a valuable commodity in wider Indian Ocean networks and was key to Portuguese trading exchanges in India (Axelson 1973: 237). In the 16th century, the exploration and establishment of trading relations at the mouth of the Limpopo River and

Delagoa Bay by the Portuguese were intended to exploit both copper and ivory resources in this region. Indeed, Portuguese merchants and other European trading partners are known to have exported copper (Hedges 1978: 109; De Vaal 1984: 10; Newitt 1995: 154, 162). However, the scale of this export appears to have been low compared to that of ivory, and Axelson (1973: 136) remarked that it appears the Portuguese never fully exploited the potential of the copper trade from southern Africa. Consequently most metals in the Lowveld were circulated in local regional trade relationships.

Historical records indicate that communities in the coastal and inland regions were highly selective about which goods they were willing to receive in return for exports from the interior. The main imports exchanged at the coastal ports in this period were cloth and glass beads (Smith 1969: 179; Newitt 1995: 154). Letters sent to the Cape by Dutch merchants stationed at the bay in the early 18th century requested specific types of beads, and attached beads obtained from Mozambique that were to be replicated by the Dutch (Smith 1970: 272). Demands in the bay changed notoriously rapidly, and traders and travellers from the interior refused to sell their goods at the coast because the beads supplied were not those they desired (Smith 1970: 286). Similarly, early travellers and missionaries noted the very selective choice and fluctuation of tastes in beads by communities in the interior of southern Africa (Junod 1927; Bryant 1948; Beck 1989; Klopper 2000). Dutch, English and most likely other merchants also traded brass through ports such as Delagoa Bay, and by 1788 brass became one of the major imports (Hedges 1978: 133).

Records of trading relations at Delagoa Bay suggest that, rather than being exploitative, one-sided, or unequal, African traders and communities living and visiting the coastal regions carried significant weight in selecting and exchanging goods (Smith 1970; Harries 1994). Glass beads, cotton cloth and brass metals appear to have been three goods that were particularly desired by communities in the interior. The importance of local demand in facilitating trade relations is further demonstrated by the 19th-century importation of iron hoes into the region when European traders became keenly aware of the link between hoes and the local value system (Harries 1994: 86). Industrial copies of the locally manufactured diamond-shaped hoe (Fig. 3.2), produced in France, were imported in large quantities through Lourenço Marques (Maputo) from the 1860s onwards. The popularity and

circulation of these hoes increased dramatically in the 1860s and 1870s, and between 1869 and 1876 almost 1 million were imported to Lourenço Marques (Harries 1994: 87, 88). In 1874 the Governor General of Lourenço Marques noted that the hoe was the most popular article of consumption by people in the region. Transported along the caravan trails that brought ivory and other items to the coast, hoes were used by traders in the interior in exchange for a variety of goods.

“Long-distance trade” is often assumed to be present as a mechanism of exchange that existed in the minds of people in the past. The notion of a dual political economy, “a self-sustaining system involving inter-regional exchange on the one hand, and an external trading system of prestige goods on the other” (Loubser, 1991: 407) has been suggested for regions of the Lowveld, emphasising the importance of long-distance trade. However, this review of the historical context of trade in the Lowveld presents an alternative scenario. Imported goods such as brass, beads and cloth do not appear to have been exchanged through vastly different mechanisms to those goods feeding into regional exchange systems. In the ports of Delagoa Bay, imports were exchanged predominantly with Tsonga merchants but also with travellers from the interior, who brokered trading relations between interior communities and merchants visiting the coast (Smith 1970: 274, 283-284). These imports, as Smith and others have emphasised, flowed into already-established trading and redistribution networks in the interior that were not especially different to those that facilitated the exchange of copper, iron and various other items in the regional networks (Newitt 1995: 161; Smith 1970; Hedges 1978: 142). Across the Lowveld and adjacent regions, cloth and glass beads were exchanged for items such as metals agricultural products and domesticated animals (Hunter 1936; Marwick 1940; Mamadi 1940; Bryant 1949; Mönning 1967; Smith 1970). Furthermore beads and cloth were circulated via the same exchange mechanisms used for these items (Hedges 1978). Mamadi’s account describes the bartering of copper for cloth, known as “*malekapo*”, from traders coming from the coast, and the trade of copper in exchange for cattle and grain in Musina (Mamadi 1940: 83). Among the Pedi on the Mpumalanga escarpment, goods from the coast were exchanged for ivory, horns and cattle (Arbousset and Daumas 1968: 258). Similarly, early travellers and missionaries noted the exchange of glass beads for a wide variety of items in different transaction spheres (Beck 1989).

Trade routes from the coast inland were extensive (Fig. 3.4), and overland trading connections also existed between Inhambane and Delagoa Bay from the 16th century onwards (Smith 1970: 279). Although attempts to control trade were made by various groups at the coast, these were largely unsuccessful, and the continued and sustained use of a variety of extensive interior trade routes has been documented (De Vaal 1942 1984; Smith 1970; Hedges 1978; Newitt 1995: 161). These routes were complemented by other trade routes coming from the Cape, and from the north by those connecting to Portuguese run stations in Mozambique. Trade from Delagoa Bay and Inhambane expanded into regional exchange networks, facilitated both by itinerant traders such as Tsonga, Lemba and *vashambadzi* merchants, and by the other exchange mechanisms outlined above. The widespread distribution of imported glass beads and cotton cloth, which reached communities on the Highveld and the Mpumalanga escarpment, and southwards into KwaZulu-Natal, attests to this expansive network (Junod 1927; Mamadi 1940; Bryant 1949; Parsons 1997; Delius et al. 2014).

In summary, exchange was deeply embedded in both the social and the economic relations that governed interaction within communities and between regions. There is no evidence of centralised markets or redistribution centres, or of the presence of a dual political economy. Imports and locally produced items were transferred through several different mechanisms of exchange, varying from commodity exchange to barter to tribute to tax. Evidence of the exchange and consumption of metal items such as hoes and ingots indicates that value was contextually constructed, negotiated and reconstituted through these transactions and uses.

3.5 Discussion: negotiating historical crafting identities in the Lowveld

The preceding discussion expanded on the various dimensions of the political economy of the Lowveld in the 18th and 19th centuries. The organisation of production, exchange and consumption interplayed with and contributed to the construction of power relations on multiple levels—from the homestead, to the lineage, to village heads and regional political

powers. Many of the underlying power relations that structured the political economy of the Lowveld were negotiated through social relations, such as kinship, political ties, and so on.

The underlying social values relating to the construction and negotiation of identification—within communities, between communities, and between regional polities—are an important dimension of crafting that needs to be discussed further. Processes of identification, particularly relating to metalworking, have often been linked to the symbolic and cultural values associated with the production of metals. In many documented ethnographic cases across sub-Saharan Africa recorded in the late 19th and early 20th century (before the disappearance of indigenous metalworking entirely), metal production was associated with great ritual power. The significance of metalworking, and in particular smelting, lay in its status as a highly potent and powerful transformative process (Herbert 1993; Childs and Killick 1993; Chirikure 2015). Control over this process was likened to control over other significant transformative processes like procreation, life, and death (Herbert 1993; Schmidt 1997). As Reid and MacLean (1995: 145) argue, the power of metalworkers must be conceptualised not as the power over direct access to resources but as “indirect control through the manipulation of both technical and ritual knowledge”.

Control over processes of transformation often resulted in the placement of metalworkers, along with other ritual specialists, in a conceptually “liminal” space in society (Turner 1987). Turner’s discussion of liminality remains of relevance here. Turner (1987) describes both the “liminal period” and “liminal people”. Although the two concepts are related, the liminal period is often a period in social transformation (after which people partake in a new social category), while liminal people are those who maintain an ambiguous relationship with the larger society/polity, resulting in the relative permanence of the liminal period. Turner describes liminal people as those who are “betwixt and between” (Turner 1987: 359), who do not fall into any one clear status category. Turner writes that liminal positions are almost everywhere associated with magico-religious properties. These are often “regarded as dangerous, inauspicious, or polluting persons, objects, events, and relationships that have not been ritually incorporated into the liminal context” (Turner 1987: 368). These

associations are largely the result of a need to maintain structure and control in society (Turner 1987: 368).

In the historical context of the Lowveld, Hammond-Tooke (1981) explained the position of liminality in relation to underlying pollution concepts, particularly the binary concepts of “hot” and “cool/dark”, which he argued were fundamental to structuring society and creating the boundaries used to maintain social equilibrium (Hammond Tooke 1981: 151). In terms of this disequilibrium and social ambiguity, Hammond-Tooke distinguished between two socially ambiguous persons: a person in a state of paradoxical ambiguity, where one exhibits ambiguity in the very essence of one’s being (such as aborted fetuses, twins, chiefs, witches, and the ill), and a person in a state of liminal ambiguity, “a diachronic state that eventually finds resolution when the status change is completed” (Hammond-Tooke 1981: 151). These are states such as birth, death, widowhood, and travelling, and are associated with the marginality that arises through changing social statuses in one’s life. “Paradoxical ambiguity is static, in the Hegelian sense,” writes Hammond-Tooke (1981: 151), “and involves permanent union of opposites in a ‘synchronic’ moment: liminal ambiguity is diachronic and is expressed over time. It is associated with a temporary state that eventually finds resolution when the status change is completed.”

In cases of ambiguity, both paradoxical and liminal, worries about the definition or condition of these persons arise and a ritual is generated to cope with them. For the Kgaga, these tensions were expressed in terms of heat, with liminal states seen as hot or dark. While Hammond-Tooke’s research was limited to the Kgaga, a Sotho-speaking community occupying a region of the Lowveld close to Phalaborwa and bordering the Mpumalanga escarpment, pollution concepts such as these were shared by many Sotho-speaking communities in Southern Africa (Hammond-Tooke 1993), and his observations serve as possible indicators of the worldviews that may have contributed towards shaping the identity of metalworkers.

Indeed, in much of sub-Saharan Africa, the association between metalworkers and liminal states has been a contributing factor to the organisation of production. Tensions around the potential power and danger of the process may have resulted in the limiting of the craft to

those of a specific “clan” or group, and to those who had kinship ties with this group (Vaughan 1970; Sterner and David 1991; Child and Killick 1993; van der Merwe and Avery 1987; Tamari 1991; Haour 2013). The application of pollution concepts to specialists or metal workers has been widely documented, and has often been interpreted as a form of social control (Sterner and David 1991: 385). The symbolic power of metalworkers as transformers, and the potential tension this power caused, may also underlie the close association between metalworking and kingship in regions of central and West Africa (de Maret 1985; Tamari 1991; Reid and MacLean 1995; De Barros 2000; Warnier 2007).

Social and political processes as a result of conceptual pollution categories may have been interwoven with economic considerations. For example, many authors have emphasised the fact that, in particular contexts, metalworkers, in particular smiths, were able to potentially accumulate wealth quickly because of the high demand for metals. One approach has been to consider the creation of castes as a means for rulers to restrict the power, both economic and symbolic, of metalworkers in society (Tamari 1991; Haaland and Haaland 2004). Tamari (1991) suggests that the separation of metalworkers into groups, often endogamous “castes”, may have been an attempt to control and neutralise their powers, often within the context of a centralised state. Such a scenario played out in the dynamics of the establishment of Mali state and Sosso/Sundiate dichotomy.

However, as Langlois (2012) has argued, the political and cultural roots of the endogamy found in craft production must be critically explored, for endogamy is often formed under particular historical circumstances, via particular social, political and cultural forces (2012: 240): “Smiths’ endogamy can be considered as a social tool utilized and managed by diverse societies in response to particular historical situations” (Langlois 2012: 250). Similarly, Sterner and David (1991) argued that the developments of particular caste systems in the northern parts of the Mandara Mountains in West Africa related to technological and economic factors. Members of the caste were conceptually associated with the female gender, which was critical for the place of crafters within the wider social order.

Strategies of social categorisation, othering, and the association of metal workers with liminal positions in society are part of wider social strategies relating to the construction of

social order; precisely how this manifested was a matter of variable and contextual negotiation (Sterner and David 1991; Langlois 2012; Haour 2013). Categorisation, othering and the association of particular groups with liminal statuses are similarly reflected in social and political strategies related to processes of movement and migration. In what has been termed the internal African frontier, Kopytoff (1987) described the widespread negotiation of frontier politics in many African communities in which migration was a common feature, typically in terms of “firstcomers” and “newcomers”. Moving into the frontier, immigrant communities had the task of re-institutionalisation. This did not often take the form of coercion, but was a complex array of social strategies that required careful political manoeuvring (Kopytoff 1987). Kopytoff described a widespread process whereby the establishment of political control by newcomers required that the power of existing inhabitants was recognised and “tamed”. Through this process, the association of the initial inhabitants with their occupation of the land was recognised, and “firstcomers” were often seen to have a special connection with, and in a sense to own, the land (Kopytoff 1987: 53). One of the ways this process was carried out was by keeping them at the margins of one’s own society, putting them in special niches to provide services. Kopytoff concludes as follows: “What is common to all these arrangements is this: once the earlier settlers are recognised to exist, the newcomers attempt to co-opt their mystical powers in relation to the land” (1987: 55).

Control of the power of firstcomers by newcomers could take the form of inverting the sequence and constructing themselves as the original firstcomers in the tradition. Thus, many myths of origin describe a group arriving at a place and finding primitive forest people/dwarf people. These stories, Kopytoff suggests, represent ideological tools to control the ritual association with land, by creating the idea that the people who were there before were “un-civilised” and non-human (Kopytoff 1987: 57). This process reflects the dynamics of power relations on the frontier in many Southern African societies. It also reflects the power of oral histories in constructing and reinforcing social boundaries and power relations, in which incoming groups were able to reconstruct and redefine the social order through the origin stories they told.

The historical dynamics behind the identification of metalworkers in the Lowveld, although reflecting potentially different examples of social identification, may have been structured by similar underlying social processes. The position of the Lemba, and particularly their relation to metalworking across the Lowveld, reflects their close association with their craft. While much of the “otherness” of the Lemba has been excessively mythologised, the feature of difference so characteristic of Lemba identity is not unique and can be understood in relation to internal processes of social and political identification in southern Africa.

In particular, the observation that the Lemba’s entry into the region was closely associated with that of the Singo in the 17th century, possibly as a result of political challenges further north, hints at some of the political processes that may have shaped Lemba identity, particularly as outsiders who then, defeated and fragmented, became part of another cultural group while retaining certain aspects of their identity. The construction of the Lemba as an ethnicity is an interesting topic that warrants further research. Ethnicity can be approached as something that is fluid and manipulated, related to the formation and negotiation of strategies of differentiation (Hammond-Tooke 2000). As many writers considering the construction of identity in relation to craft activities have observed, the maintenance of an ethnic or group identity was a strategy of social differentiation that related to crafting. Indeed, while the Lemba have historical ties to the Singo, the construction of Lemba identity may have moved through a series of different strategies. In particular, the kinship strategies of the Lemba may also represent a social dimension of the organisation of metal production, benefiting the Lemba communities by allowing them to retain control over their craft. The high value of copper in the region and beyond may also have facilitated the formation of specialist metalworkers who protected entry via endogamy, like the Lemba. People whose occupation pertained to the full-time production of their craft, such as the Lemba, most likely developed an outsider identity.

In interviews conducted with Venda and Tsonga potters in the Giyani region, Per Fredriksen (personal communication) noted that two not necessarily incompatible descriptions of Lemba identity were provided by the potters. Tsonga potters thought the Lemba possessed a historical identity that was strongly linked to craft production: for example, any potters or metalworkers who were considered good at their craft were referred to as “Lemba”. Venda

informants also recognised the position of the Lemba as specialist craftspeople, with their identity closely tied to their craft. However, they also said that the Lemba were the initial “firstcomers” in the region, and that they were there when the Venda arrived in the region, becoming through time a recognised and respected part of the Venda political landscape. While we may never know whether the Lemba were indeed the original inhabitants of the region, or whether they in fact arrived with the Singo, the negotiation of their identity, closely linked to their craft, highlights the complex social and political context of craft production in this historical period.

The underlying processes of social differentiation that may have characterised Lemba identity also manifest in various other past communities of the Lowveld. In the case of the baPhalaborwa, one might consider the role played by Malatji origin stories in constructing the symbolic right to control the land and its resources. In the myth of origin, alluded to earlier, the Malatji ruling class describes their arrival at Phalaborwa, and the “primitive” people they found there (van der Merwe and Scully, 1971: 187). The story goes on to describe how the Malatji displaced these peoples, and became the “owners of the metal ore” that was in the region. Yet they did not know how to smelt the metal. Fortuitously, “various men of unknown origin—Pilusa, Ngwani and Malesa (the names of present-day non-ruling clans)—arrived on the scene with iron-working skills and supplied the Malatji with the necessary tools for agriculture and defence” (van der Merwe and Scully, 1971: 187).

Kopytoff’s description of the role of firstcomers and newcomers, and of the political relationships the two groups may have had, is useful when considering Phalaborwa oral history. In this case I would suggest that the oral history legitimises Malatji control of the “ritual association of the land” and its metal production. That metalworkers present in this myth of origin connect the Malatji to the land as well. There are many elements in the baPhalaborwa oral tradition that suggest the use of similar ideological tools to enforce the status quo. Similarly a Phalaborwa poem describes how “The conquered are taught how to smelt iron” (More 1974: 229). The use of movement and migration in oral histories does not necessarily reflect the migration of people from different places but is often a strategy for making the present comprehensible. As historians of African oral traditions have observed,

the inventions and distortions of oral traditions may relate to particularly important events in the past and present (Vansina 1985), with oral histories having the power to articulate and render to the audience particular visions of power relationships within the society (Furniss and Gunner 1995).

The above exploration of identity highlights another dimension of the highly variable process of “control” over resources, craftspeople and related aspects of the political economy. The historical production of metals in the Lowveld indicates the shifting role of social and economic relations in shaping the organisation of production. Lemba, baPhalaborwa and Venda metalworkers were influenced by both similar and different economic and social processes. This led to different production strategies and different power relations regarding the control over resources and their production and distribution.

Control over production of metals in the context of the Venda “state” is an important point that also requires further elaboration. The Venda state has been described by archaeologists as an expansive trading state, whose power derived from its ability to incorporate and control new labour and resources (Loubser 1991). Mahumane’s 18th-century account describing large areas of the Lowveld under Venda influence (Liesegang 1977: 174) has been used to infer territorial “control” over mines and minerals in the region. While archaeologists working in the Lowveld region have emphasised the size and territorial expanse of the Venda state (Huffman and Hanisch 1987; Loubser 1991), there is no indication of how this political influence may have indeed manifested or of how power or control was enacted. Similarly, there are clear social and political connections between Venda and Phalaborwa (Scully 1978: 239), but how these were negotiated remains to be demonstrated. Importantly, it does not appear that Venda rulers controlled the production of crafts or indeed trade and exchange relations in the Lowveld region. Metalworkers in the Tshimbupfe and Musina areas, while under the influence of Venda polity, did not produce directly for them. Likewise, the Lemba retained a significant degree of independence.

In contrast, in the context of the 19th-century Zulu state, increased consolidation of the kingdom led to the growing stratification of the society and the institutionalisation of control over resources (Hedges 1978; Bonner 1983; Hamilton and Wright 1990; Hamilton

1998). In the 18th and 19th centuries, Zulu state metalworkers were incorporated into the state system in particular ways (Hamilton 1998). Hamilton and Wright (1990) describe how kinship relations were manipulated and changed, and new ethnic identities created, in response to changing political circumstances in the 19th-century Zulu state (1990: 16). With regard to metal workers in the Zulu state, the transformation of the term *amalala*, from a term designating metal workers and rainmakers to a derogatory term for a low-status person, is of particular importance. Among the northern Zulu, a smith was called *umTonga*, and in the south *ilala* (Hedges 1978: 88). In the 19th century these too became derogatory expressions for persons of lowly status. Hedges (1978) and Hamilton and Wright (1990) argue that the derogatory name was used as an ideological tool to assert superiority over an otherwise potentially threatening category. This example, like the Lemba, further indicates the malleability and strategic use of conceptual categories of othering related to craft.

This strategy was further expanded into a form of economic control, since metalworkers under the Zulu kings Shaka and Dingane were only paid in perishable goods and were not allowed to accumulate cattle (Hedges 1978). Similarly, Ndwandwe ironworkers, after being conquered by Shaka, were forced to produce iron weapons for Shaka directly and were not allowed to produce crops or keep cattle, but had to trade them in return for the iron (Maggs 1992: 71).

The position of migrating incoming communities, who were without political authority in the region but who come to occupy specialist craft relations in a new community, also exemplifies the diversity of social strategies in the relationship between craft producers and political power. As Parsons (1997) recounts, when the Maletse/Seleka moved across into south-eastern Botswana, they settled as *bafaladi* (foreign minority) miners and ironsmiths among Tswana communities. Initially, they paid tribute to local Tswana chiefs, but by the 18th century they had “built up their own cattle herds and adopted Tswana language and culture to an extent that they could assert political autonomy as an independent Tswana chiefdom or state” (Parsons 1997: 334).

In the historical Lowveld landscape, there is no clear correlation between political centralisation and the organisation of production. Furthermore, various production

strategies—differing across baPhalaborwa, Lemba and Venda metalworkers—indicate the variety of social and economic strategies metalworkers may have employed. The different power mechanisms that may have functioned in relation to control over resources are important for thinking about the control and distribution of resources in the deeper past.

3.6 Conclusion

The above review of metalworking in the Lowveld region indicates that direct economic control over metal resources and/or the craftspeople working them was not a feature of the political economy of the 18th and 19th centuries. Neither Malatji nor Venda groups appear to have had direct control over access to ores, production of metal, or distribution of metals. In some cases, such as with the baPhalaborwa, “control” was exerted in an ideological form through assertions of authority in oral histories. However, importantly, this symbolic control did not necessarily translate into economic control, as is conventionally expected in archaeological reconstructions of control. Rather, it appears that access to resources was loosely controlled, with political and social strategies related to migration, movement, marriage and kinship facilitating the negotiation of these relations.

Although there were clearly areas within the Lowveld associated with specialised increased production, such as Phalaborwa, Tshimbupfe and Musina, production was not limited to these localities. Furthermore, there is evidence that both copper and iron ores were at times exchanged directly from source by visitors from neighbouring communities and smelted elsewhere, facilitating the dispersed production of metals. Differential task distribution, and the individual entrepreneurship of those who facilitated this process, was an important feature of the production and exchange of metals in the Lowveld. Ore mining, smelting and smithing were sometimes performed by different people, and often different aspects of the production process included female participants and various members of the family or community. These “hidden producers” were clearly part of metal production, both directly and indirectly. In relation to the later scheduling of activities, they were clearly an important component of the production process, with “specialists” in many regions of the Lowveld continuing to partake in agriculture, animal husbandry, and other crafts.

Trade and exchange relations form an important consideration of this chapter. They tie into discussions of production and consumption, and also provide an important departure point for theorising exchange relations in the earlier period of Phalaborwa's occupation. Exchange relations between coastal merchants and traders from the interior indicate that imported items were selectively chosen. Glass beads, brass, cloth and later industrially manufactured copies of the locally produced iron hoe were commodities that were popular, likely because they fitted in with the established logics of consumer demand (Prestholdt 2004, 2008). The transfer of these from the coast into the interior, and their use in various different exchange and consumption contexts, clearly indicates the contextual construction of their valuation.

Different exchange relations existed and were part of social networks of relations that in turn created relations of reciprocity, debt, and dependency of various degrees. Within the historical Lowveld period there is no evidence that imports or metals were accumulated as large stores of wealth. Instead, these items were used in social relations, such as marriage exchanges, and not always used in commodity exchanges. Integral to long-term transactions like marriage exchanges were the inter-personal relations established through exchange. These relations allowed the transfer of goods to be translated into wealth-in-people (Guyer and Belinga 1995).

Such observations underlie the recognition that power strategies in African communities were not always informed by typical coercion—indeed, the correlation between increased stratification and craft production does not hold true in the range of historical contexts in southern Africa. Rather, these relations were negotiated in a variety of ways. This finding has implications for how we consider power strategies between producers, consumers and elites in the deeper past, as well as how the social categories of “producer”, “consumer” and “elite” were constructed in the first place. Issues of control also have implications for the conceptualisation of the state in southern African historiography. While there are certainly examples of highly centralised states, such as the Zulu state under Shaka, in which control over iron resources was key to the success of the army, the Rozwi, and other states like it, was not a strong unified state but a loose confederacy (Mudenge 1988). Similarly, the

nature of the Venda state, and control over the Lowveld, may not align with the archaeological expectations of a centralised state.

This chapter provides an important departure point for considering the position of craftspeople in the political economy of southern Africa. An exploration of the various components of political economy in the Lowveld, such as production, exchange and distribution, brings to light the specific historical dynamics in which these components were negotiated, often in ways that vary significantly from the expectations of archaeological theory reviewed in the previous chapter. As such, the historiography from this region provides an important counterpoint for examining the organisation of crafting in the political economy of the earlier 10th- to 13th-century occupation period. The following chapter provides an overview of the archaeological evidence of Phalaborwa occupation, before discussing the fieldwork conducted at the site of Shankare in Phalaborwa.

Chapter Four:

Background to the archaeology of Phalaborwa

“And quite near this place, haunted by the spirits of departed chiefs, the copper workers had extracted their metal from the rocks and made ornaments from it.” (Cartwright 1972: 6, describing Hans Merensky’s first visit to Lolwe hill in 1903).

4.1 Introduction to chapter

The historical study of the political economy of the northern Lowveld has highlighted several issues that are of major relevance to the position of metalworking within the context of regional dynamics. However, the analysis only considered a small temporal segment, covering the 18th, 19th and early 20th centuries. A longer-term exploration of the political economy of specific point sources is therefore needed. Phalaborwa, a well-known copper and iron source that was exploited in both the recent past and the deeper archaeological past, provides an important avenue for this exploration. A significant amount of research has been carried out on the archaeology and technology of copper and iron production in Phalaborwa. This research provides an important background to the current study. The present chapter summarises the research and identifies the specific research gaps that inform the research strategies detailed in the following chapter.

4.2 Location and environmental setting

Phalaborwa is located in the Lowveld area, a low-lying plain 300–400 meters above sea level, generally characterised as an arid environment with low rainfall (Biggs 2003; Cowling et al. 2004). Phalaborwa (Fig. 4.1) is located between the Letaba and Olifants rivers, two perennial rivers that flow through the region. It is a dry, semi-arid woodland savannah area with low rainfall (450 to 500mm per year) that falls in summer months (October–May) (Plug

1989). Temperatures in Phalaborwa and the Lowveld are notoriously high and can exceed 40 degrees in summer months, while winters are mild, averaging 25 degrees celsius in the day. The landscape around Phalaborwa is characterised by syenite intrusions that stretch from Mica in the west into the Kruger National Park (KNP) in the east, in a northeast to southwest band. These syenite kopjes⁶ (Fig. 4.2) form the locales around which Iron Age communities settled.

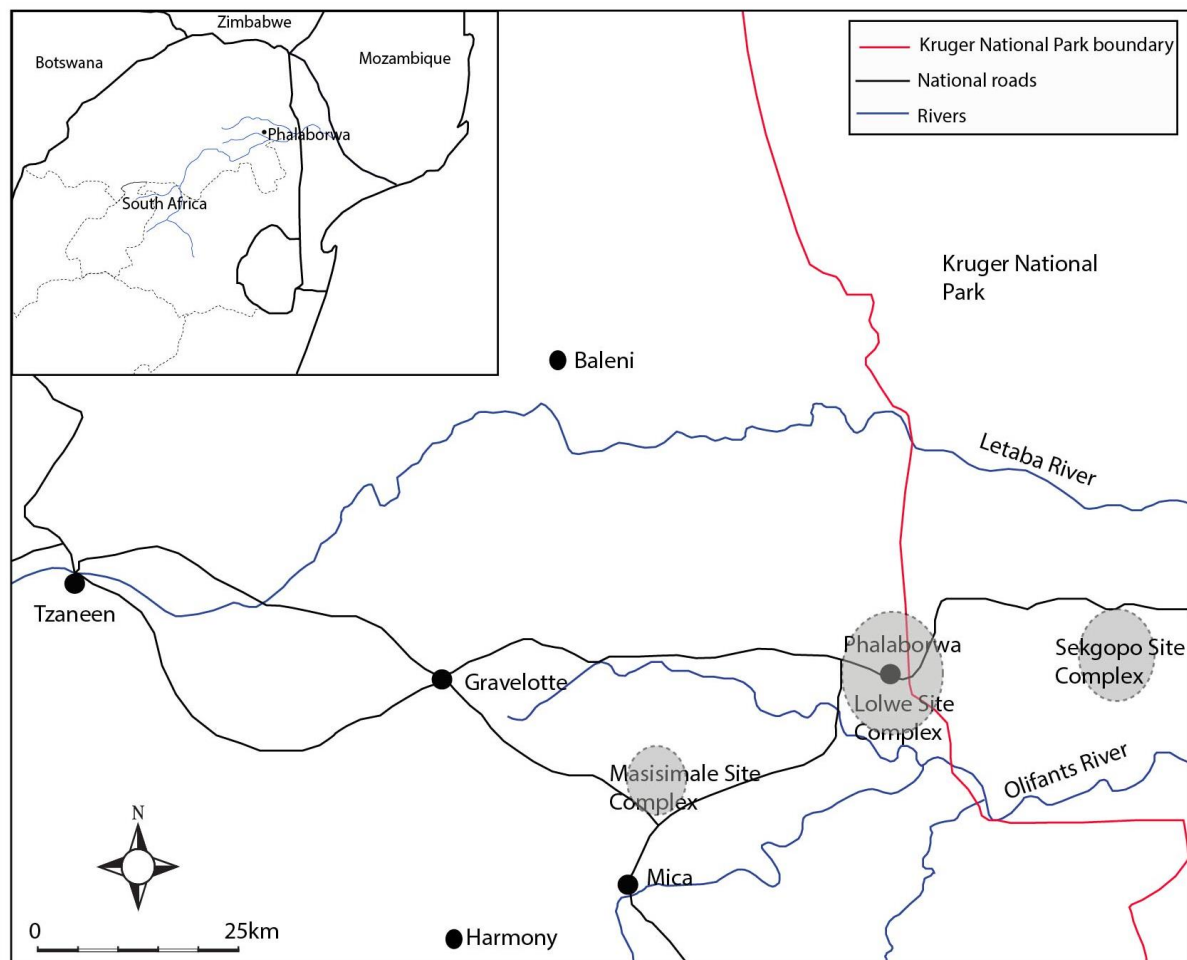


Figure 4.1 Location of research area and site complexes defined by Pistorius (1989). Map adapted from Plug and Pistorius (1999) and Miller et al. (2001).

⁶ A kopje is a widely used South African term for a hill.

Phalaborwa falls within a savanna biome that characterises much of the adjacent Lowveld region (Biggs 2003). Mopane (*Colophospermum mopane*) is one dominant tree species in the region, and provides good firewood for cooking, heating and the production of charcoal for smelting. A diversity of grasses occurs widely in the area such as *Digitaria* sp. The discrete environment of Phalaborwa town has been characterised as the Phalaborwa Sandveld (Gertenbach 1983). Soils in the region, identified as Glenrosa and Hutton, are typically sandy soils with a high alkaline content, poor in clays and nutrients and poorly suited for agriculture (Plug and Pistorius 1999: 163). Red anthills, a likely source of the clays used to make hut floors and other structures such as furnace walls, are also characteristic of the region (Pistorius 1989).

The area provides a habitat for a wide variety of wild game species, today largely limited to the Kruger National Park. Studies of faunal remains (Plug and Pistorius 1989; Plug 1989) suggest that wild game species formed a significant part of the diet of both Early Iron Age and Late Iron Age communities inhabiting the region. Environmental constraints linked to poor soils, low rainfall and animal diseases are thought to have made the Lowveld an unattractive place to settle for Iron Age communities (Pistorius 1989; Miller et al. 2001). However, environmental constraints must be considered in relation to the possibly adaptive strategies of the past inhabitants of a region. Iron Age communities have been shown to have successfully inhabited areas conventionally considered environmentally marginal in the past (Manyanga 2006; Ekblom et al. 2011), utilising a range of ecological, environmental and social strategies. Ekblom et al. (2011) demonstrated that communities in the adjacent northern Kruger National Park over the last 1000 years used a variety of adaptive and strategic responses to shifts in rainfall and climate without abandoning the area. It is likely that the occupants of Phalaborwa utilised a range of resilience strategies that extended to and included regional kinship network and exchange systems. Oral records point towards the exchange of grains with neighbouring communities (Krige 1937b; Scully 1978). Krige (1937b: 337) mentions that in times of famine the baPhalaborwa may have moved west to Lobedu country to farm, an interaction noted in the Lobedu oral history. Small-scale agriculture may have taken place along the perennial rivers that flow through the region, such as the Letaba, Selati and Olifants. In the 20th century, crop agriculture in the Namakgale and Mashishimale areas was supported along the river banks (Fig. 4.4). Hedges

(1978: 40) suggests that some millet and sorghum types grown in the Lowveld were drought resistant and able to grow in sandy soils. The utilisation of wild fruits, such as morula nuts, is also well documented in the last century (Krige 1937a): “The morula fruit is made into a highly nutritious drink, and the nuts are used in many dishes. The Phalaborwa, in the absence of many corn crops and other plants used for relish, use the morula in their food” (Krige 1937a: 359).



Figure 4.2 View from Shankare Hill looking eastward. Note the distinct syenite kopjes on the horizon.

4.3 Geology

The geological formation that Phalaborwa is famous for and that both pre-colonial and modern industrial mining have targeted is known as the Palabora igneous complex. The Palabora igneous complex is a Proterozoic complex (ca 2047 Ma), the initial result of an alkaline volcano that combined with several geological intrusions to form a unique geological deposit (Eriksson 1989; Wilson 1998). The complex is kidney shaped, stretching 6,5km long and 3km wide, and within this core lies the Loolekop pipe, a vertical intrusion made up of a core of banded and transgressive carbonatite surrounded by foskorite (Wilson 1998: 213).

The foskorite member is made up of magnetite, apatite and olivine. The magnetite from the foskorite member is titaniferous, with a titania content above 8%, occurring as ilmenite or ulvospinel. The titanium levels of the Palabora complex have been indicative in provenancing studies of metallographic artefacts from the region (Gordon and van der Merwe 1984; van der Merwe and Killick 1979; Killick and Miller 2014). The carbonatite complex is made up of a banded carbonatite and transgressive carbonatite, the latter the key source of copper ores. The carbonatite contains copper sulphides, magnetite, calcite and uranthorianite (Eriksson 1989; Wilson 1998). In contrast to the foskorite member, the titania is below 1% in the transgressive carbonatite and only slightly higher in the banded carbonatite (Wilson 1998: 215).

The Loolepipe carbonatites formed the once 80m high Lolwe Hill, the location of the pre-colonial mine. While modern mining at Phalaborwa targets copper sulphides, along with a host of other economically viable minerals (Evans 1993), pre-colonial copper mining targeted the copper minerals of malachite and azurite, which occur in the oxidised zone of the carbonatite complex (Miller et al. 2001). The co-occurrence of magnetite and copper carbonates in the carbonatite complex is evident in ore samples recovered archaeologically, further indicating that this was the source of the copper ores.

4.4 Chronological sequence and the known sites in Phalaborwa and the surrounds

Early research into the archaeology of Phalaborwa was initially conducted by geologists (Hall 1912), prospectors, and amateur archaeologists (Schwellnus 1937; More 1974). The first systematic studies by a professional archaeologist were conducted by Revil Mason (1962, 1965, 1968) who studied Lolwe Hill and other hill settlements in the immediate vicinity of Phalaborwa, including the current site under study, Shankare. Nicholas J van der Merwe later conducted a significant amount of archaeological research in the Phalaborwa region. In 1965, and again from 1970 to 1973, he was in charge of an Iron Age research team that focused on the archaeology, ethno-archaeology and history of the Phalaborwa region (covering the areas between the Murchison Range to the west and the Kruger National Park to the east of Phalaborwa). As part of this study the team surveyed and recorded a large number of sites in this region and excavated Kgopolwe Hill, Nagome Hill and a number of other smaller sites (van der Merwe and Scully 1971). They documented almost 50 sites within a 30km radius of Phalaborwa, and attempted to record the cultural history sequence of Phalaborwa from the 8th century to the 19th century (Scully and van der Merwe 1971; Evers and van der Merwe 1987). Robert Scully (1978) was also part of van der Merwe's Phalaborwa research team. As part of this research team, van der Merwe and Killick (1979) conducted further research in the area, focusing on metallurgical remains (van der Merwe and Killick 1979; Gordon and van der Merwe 1984), followed by a number of later studies that included Eloff's (1977) research at the site of Masorini in the Kruger National Park, Meyer's (1986) archaeological surveys of the Kruger National Park, and Pistorius's (1989) research of metalworking sites in Phalaborwa (Pistorius 1989; Plug and Pistorius 1999). Du Toit (1968) also conducted an ethnographic study of the material culture of the baPhalaborwa. Metallurgical studies have continued with research by Miller, Killick and van der Merwe (2001; Miller 2010; Killick and Miller 2014; Killick et al. 2016) as well as recent research by Thondhlana (2013) and Thondhlana et al. (2016).

4.4.1 Early Iron Age sites

The earliest manifestation of Iron Age communities in the Lowveld area is marked by the Silver Leaves (AD 280–450), Mzonjani (AD 450–750) and Garonga (AD 750–900) ceramic facies⁷ (Klapwijk 1974; Klapwijk and Evers 1986; Meyer 1984, 1986; Huffman 2007). Silver Leaves ceramics have been found from the Lowveld to the East African coast, and at sites close to Phalaborwa. Indeed, Mzonjani ceramics were recovered from the Baleni saltworks north of Phalaborwa (Antonites 2016), in association with the exploitation of salt resources. Similarly, Mzonjani and Garonga ceramics have been found in regions of the Kruger National Park but not in Phalaborwa itself, suggesting the absence of copper production in this time period (Fig. 4.2).

⁷ A ceramic facies is a ceramic stylistic unit (after Huffman 2007). Details of the characterisation of ceramics into stylistic units is given in chapter Six.

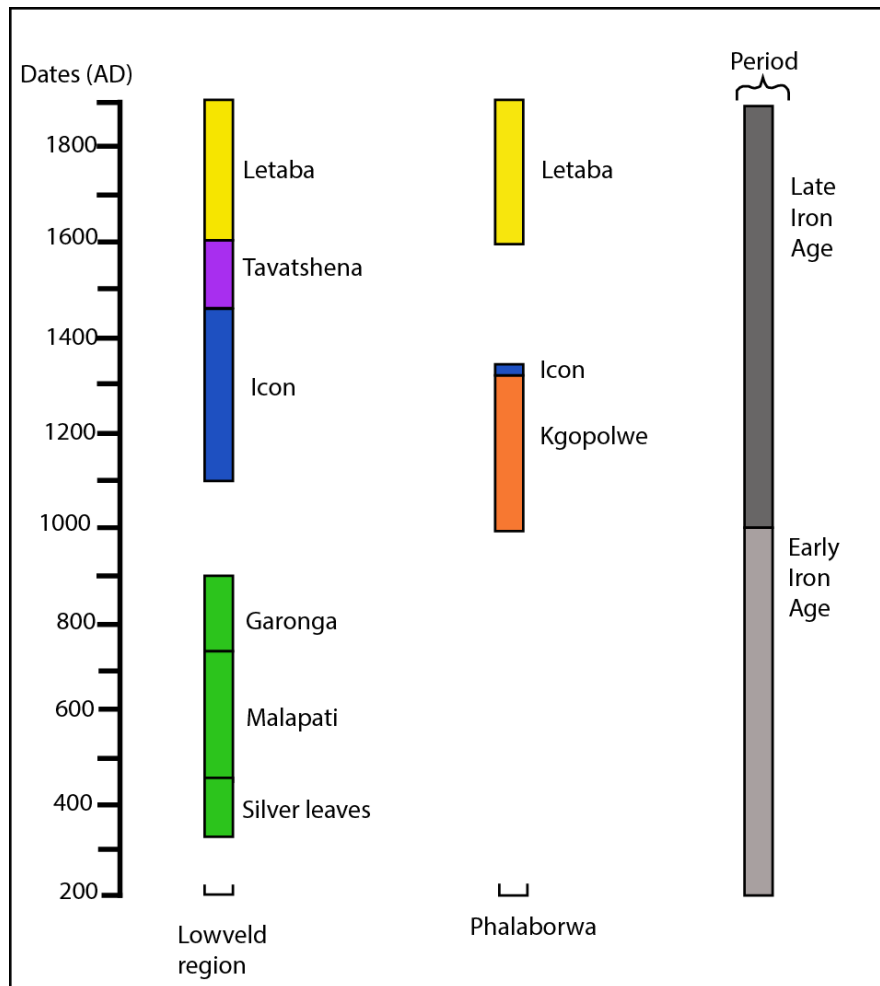


Figure 4.3 Archaeological sequence of the Lowveld and Phalaborwa area. Colours represent different ceramic facies.

Early Iron Age settlements such as Silver Leaves (AD 280–450) and possibly Mzonjani (AD 450–750) are generally situated on deep alluvial soils close to river banks (Meyer 1984: 218), often at the confluence of river systems. Three sites on the banks of the Letaba River in the Kruger National Park were identified by Meyer (1984, 1986). However, this phase of the Early Iron Age is not present or associated with metal working in Phalaborwa.

Within Phalaborwa, the first identified archaeological occupation—from the 10th to the 13th centuries—is associated with Kgopolwe ceramics (Fig. 4.3). Sites associated with Kgopolwe ceramics (AD 900–1300) are generally referred to as “open village” sites and occur at the base of syenite kopjes (Evers and van der Merwe 1987; Miller et al. 2001). To date, only three Early Iron Age sites have been identified in Phalaborwa: at Kgopolwe,

Nagome and Shankare (Evers and van der Merwe 1987; Miller et al. 2001). Nagome, situated on the property of the Palabora Mining Company (PMC), was rescue excavated by van der Merwe before it was destroyed by mining activities in the 1980s. Kgopolwe, located in the modern town of Phalaborwa, and also excavated by van der Merwe in 1965, is a provincial heritage site (van der Merwe 1971). Shankare was studied by Mason (1967), Pistorius (1989) and Thondhlana (2013), and is the research site of this thesis.

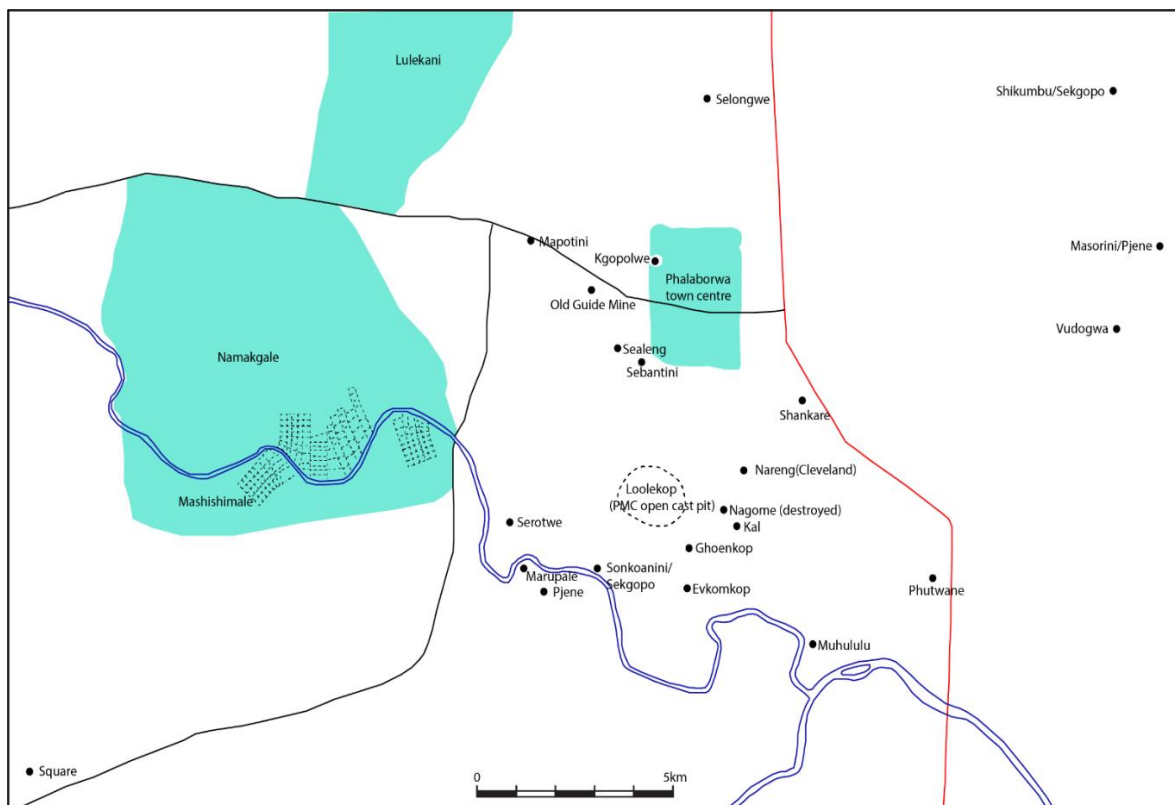


Figure 4.4 Map showing the location of sites in Phalaborwa and the adjacent Kruger National Park.

The stylistic similarity between Kgopolwe and the Eiland ceramics found on the adjacent Highveld regions led Klapwijk and Evers (1986) to suggest that Kgopolwe has similar origins to Eiland ceramics and is differentially distributed in the Lowveld. Eiland ceramics have been found over a large region of northern South Africa, eastern Botswana and south-eastern

Zimbabwe (Denbow 1986; Klapwijk and Evers 1987; Evers 1988). Eiland ceramics have also been found in small numbers at Mapungubwe (Schofield 1937). Evers's (1988: 49-53) typological analysis showed that Kgopolwe and Eiland, though similar, were distinguishable. The variation between Eiland and Kgopolwe represented closely related facies within a similar ceramic tradition. He suggested that both Eiland and Kgopolwe are derived from "local variants of the western stream Early Iron Age on the Transvaal plateau and the northeastern Transvaal Lowveld" (Evers 1988: 54), and that both developed as local styles in their own areas.

Huffman (2007) classified Kgopolwe as derived from Malapati (AD 750–1030), in turn derived from Happy Rest (AD 500–750). Kgopolwe ceramics thus appear to have a northerly origin, and are related to Gumanye (AD 1030–1250), which also derived from Malapati. Also deriving from Gumanye are Mutamba and Great Zimbabwe pottery, which share some relation to Kgopolwe. Eiland (AD 1000–1300), on the other hand, derives from Diamant (AD 750–1000), which also derived from Happy Rest (AD 500–750). Malapati ceramics are found in the northern Limpopo region and southern Zimbabwe, and the ceramic facies was recognised by Meyer (1986) and Robinson (1966). Gumanye ceramics are found in a similar region to Malapati ceramics, and also at Great Zimbabwe. Mutamba ceramics (AD 1250–1450) are found in the northern Soutpansberg and Southern Zimbabwe (Loubser 1991; Antonites 2013).

Evers and van der Merwe (1987) identified Moloko (Icon) ceramics, which appear towards the end, or shortly after the Kgopolwe ceramic phase, at the site of Nagome in Phalaborwa in the 12th century (Fig. 4.3). Elsewhere in the Highveld, Moloko ceramics appear to replace Eiland ceramics in the 14th century (Mason 1975; 1983; Huffman 2007), and overlap between Eiland and Moloko is noted by some scholars (Hall 1981; Bandama 2013; Biemond 2014). Moloko ceramics are thought to be related to the identity of ancestral Sotho-Tswana speakers (Huffman 2007). The earlier date of Moloko in Phalaborwa led Evers and van der Merwe (1987) to suggest that they represent an intrusion of the Moloko people onto the landscape. The Moloko ceramics from Nagome 3 are from the earliest Moloko facies (Evers 1988: 116), now defined as Icon (Huffman 2007).

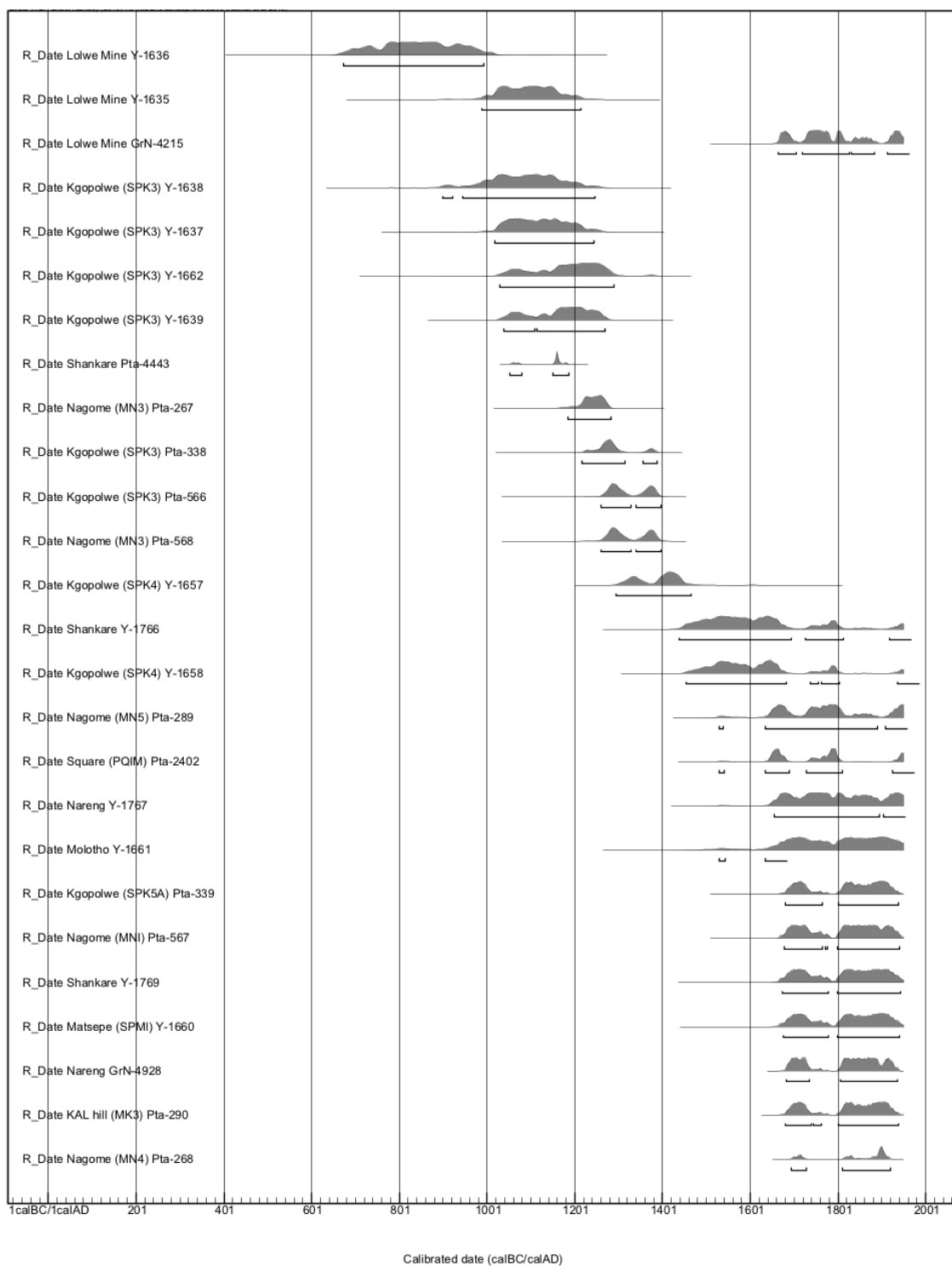


Figure 4.5 Existing radiocarbon dates for sites in Phalaborwa. Generated by OxCal v4.2.4 (Bronk Ramsey 2013) using the southern hemisphere atmospheric curve (Hogg et al. 2013). See Appendix 1 for a detailed record of the provenance of radiocarbon dates from Phalaborwa.

4.4.2 Late Iron Age sites

Based on the correlation between ceramic typologies, settlement types and the radio-carbon dates, it has been argued that the Kgopolwe occupation in Phalaborwa was followed by an occupational hiatus, ranging from 520 ± 60 b.p. (Y-1657) to 290 ± 80 b.p. (Y-1766) (Miller et al. 2001: 404) (Fig. 4.5). Similarly, while Meyer (1986) documented a long history of occupation in the KNP from the Early Iron Age Silver Leaves component, he found no evidence of Kgopolwe sites and noted an apparent occupational hiatus of the adjacent Kruger National Park area between AD 1000 and 1600. However, given the small number of sites surveyed and excavated in the surrounding region, including the Masisimale (sometimes Mashishimale) Hills (Killick et al. 2016), it is possible that other occupational phases may not have been identified.

The occupation hiatus from the 15th to the 17th century in Phalaborwa ends with the arrival of the Letaba facies (AD 1600–present), a broad regional ceramic facies found across the Lowveld. In comparison to the small number of Kgopolwe sites in Phalaborwa, there are a large number (Fig 4.4 and Table 4.1) of Late Iron Age sites in the region. As noted above, these settlements are predominantly associated with granite kopjes, but are built using terracing on the slopes of the kopjes. Most of the sites are associated with iron and copper working, and show evidence of domestic occupation (van der Merwe 1971; Pistorius 1989; Miller et al. 2001). Evidence of regional trade from these sites comes in the form of glass beads, cowrie shells (*Cypraea annulus*), and iron and copper implements such as iron hoes and *lerale* ingots (Mason 1965, 1973, 1986; Gordon and van der Merwe 1984; Pistorius 1989).

Letaba, the ceramic facies associated with the 17th- to 19th-century occupation in Phalaborwa, is widely distributed in the Lowveld area and is identical to pottery produced and used by Sotho, Tsonga and Venda people in the Lowveld today (Mason 1986; Huffman 1980; Loubser 1991). Loubser (1991: 396) described the emergence of the Letaba ceramic style as a result of the fusion of earlier stylistic facies present in the region. Letaba ceramics are characterised by spherical globular pots, with a cross-hatched/counter-hatched band on

the shoulder, and a graphite burnish (Loubser 1991: 166). A small number of Letaba vessels have rim incisions and chevrons.

Julius Pistorius's doctoral research, focused predominantly on the later (17th-19th century) occupation of Phalaborwa (with the exception of one excavation trench at Shankare), attempted to match the archaeological occupation of the sites with the oral history of the baPhalaborwa people, drawing predominantly from Scully (1978). In doing so, Pistorius identified three archaeological site complexes in and around Phalaborwa—the Loole, Sekgopo and Ga-Masisimale (Fig. 4.1)—and linked these with historically identified groups: namely, the Makuasane (sometimes written as Makuashane), the Maseke-Malatji, the Majaji-Malatji, and the Bashai (Pistorius 1989; Plug and Pistorius 1999). Focusing on the settlements in the Loole site complex (located in the immediate vicinity of Phalaborwa), Pistorius created a site typology that characterised sites according to different criteria. Group 1 settlements (such as Shankare, Nareng and Kgopolwe) represent villages of ruling lineages: “These settlements contain large-scale iron and/or copper manufacturing, as well as extensive residential remains” (Plug and Pistorius 1999: 160). A second group represents sites occupied by immigrant groups who settled there in the 18th century. These are industrial sites with little evidence of residential remains. Group 3 are sites occupied by immigrants into Phalaborwa in the 19th century (such as the Tsonga); they again show little evidence of residential remains and were used rather for metal production (Plug and Pistorius 1999: 162). The majority of the sites in the Lolwe complex (Group 1, 2 and 3 sites) were predominantly associated with the production of copper and iron, with fewer sites associated exclusively with the production of iron. Pistorius demonstrated that the production and refining of copper and iron took place in domestic contexts on terraces, with production debris found across most sites.

The table below summaries the known archaeological sites in Phalaborwa and the adjacent Kruger National Park and their cultural affiliations (see also Fig. 4.4). Note that Kgopolwe, Nagome and Shankare have two occupational phases.

Table 4.1 Known sites in Phalaborwa, and associated ceramics and cultural affiliation.

Site Name	Period (AD)	Ceramic facies	Cultural affiliation	Farm name	Reference
Sites in Phalaborwa (Lolwe site complex)					
Lolwe hill (mine)	900- 1900 AD	Unknown	baPhalaborwa	Loole (31 LU)	Van der Merwe and Scully 1971, Scully 1978
Old Guide Mine	?	Unknown	?	Schiettocht (25 LU)	More 1974
Nagome hill	EIA and LIA	Kgopolwe, Moloko and Letaba	baPhalaborwa	Loole (31 LU)	Van der Merwe and Scully 1971, Scully 1978, Evers and van der Merwe 1987
Shankare	EIA and LIA	Kgopolwe and Letaba	Tsonga	Loole (31 LU)	Pistorius 1989, Plug and Pistorius 1999
Kgopolwe	EIA and LIA	Kgopolwe and Letaba	baPhalaborwa	Laaste (24 LU)	Van der Merwe and Scully 1971, Scully 1978
KAL	LIA	Letaba	Unknown	Loole (31 LU)	Van der Merwe 1971, Pistorius 1989
Impala beacon	LIA	Unknown	Unknown	Loole (31 LU)	Van der Merwe 1971
Machaloi (Polisiekop)	LIA	Unknown	Unknown	Loole (31 LU)	Van der Merwe 1971
Bosvark beacon	LIA	Unknown	Unknown	Loole (31 LU)	Van der Merwe 1971
Putwani	LIA	Letaba	Unknown	Loole (31 LU)	Van der Merwe 1971
Evkomkoppie	LIA?	Unknown	Unknown	Loole (31 LU)	Pistorius 1989
Pjene	LIA	Letaba	Hlungwane (Tsonga)	On the boarder of Rhoda (9 KU) and Paul (7 KU).	Pistorius 1989
Marupale	LIA	Letaba	Hlungwane (Tsonga)	Paul (7 KU)	Pistorius 1989
Sonkoanini/Sekgopo	LIA	Letaba	unknown	Rhoda (9 KU)	Pistorius 1989
Ghoenkop	LIA	Unknown	unknown	Loole (31 LU)	Pistorius 1989

Selongwe		Letaba	Mmopa and Mapadi (Sotho)	Selonque (23 LU) and Last (24 LU),	Pistorius 1989: 216-217
Serotwe	LIA	Letaba	baPhalaborwa	Wegsteek (30 LU)	Pistorius 1989
Mapotini	LIA	Letaba	baPhalaborwa	Schiettocht (25 LO)	Pistorius 1989
Muhululu	LIA	Letaba	baPhalaborwa and Tsonga	Merensky (32 LU)	Van der Merwe 1971, Pistorius 1989
Phutwane		Letaba	unknown	Merensky (32 LU)	Pistorius 1989
Nareng/Cleveland	LIA	Letaba	baPhalaborwa	Merensky (32 LU)	Pistorius 1989
Sebatini	LIA	Letaba	Nkwane (Swazi)?	Schiettocht (25 LU)	Du Toit 1986: 18
Sites in the Kruger National Park (Sekgopo site complex)					
Masorini (Pjene)	LIA	Letaba	baPhalaborwa and Tsonga	Kruger National Park	Van der Merwe 1971, Meyer 1986, Pistorius 1989
Shikumbu (Sekgopo)	LIA	Letaba	baPhalaborwa and Tsonga	Kruger National Park	Van der Merwe 1971, Pistorius 1989
Vudogwa	LIA	Letaba	Unknown	Kruger National Park	Van der Merwe 1971, Pistorius 1989
Sites in the Masisimale site complex					
Square	LIA	Letaba	baŠai (Sotho)	(150 KT)	Van der Merwe and Killick 1979, Pistorius 1989
Marakapula	LIA	Unknown	baŠai (Sotho)	Lillie (148 KT)	Pistorius 1989
Moakeni	LIA	Unknown	baŠai (Sotho)	Lillie (148 KT)	Pistorius 1989
Badimong	LIA	Unknown	baŠai (Sotho)	Lillie (148 KT)	Pistorius 1989
Sefateng sa diphir	LIA	Unknown	baŠai (Sotho)	Transport (145 KT)	Pistorius 1989
Maremosa	?	Unknown	baŠai (Sotho)	Paul (77 KU)	Pistorius 1989

4.5 Metal production in the archaeological sequence

The attraction of settlement, in both the early and later occupation in Phalaborwa, appears to be strongly influenced by the metal (iron and copper) ores in Phalaborwa. This is reflected in the presence of metalworking debris at numerous sites in Phalaborwa and adjacent regions of the Kruger National Park (van der Merwe and Scully 1971; Pistorius 1989; Miller et al. 2001). Lolwe Hill (Figure 4. 4: marked by the giant opencast pit) is the largest known pre-colonial mine in the area. Lolwe once stood as a large flat-topped hill 80m above ground. Early prospectors and geologists documented numerous mine shafts and adits in the hill (Hall 1912; Schwellnus 1937). Mining was done in a combination of open stopes, tunnel and underground chambers. Open stopes were narrow, ranging from 15 inches (37.5cm) wide and 20 feet (6.096m) deep in places (More 1974: 229). Iron gads, fire setting and other techniques were documented (Mason 1965; van der Merwe and Scully 1971; More 1974). Although the full extent of the mine was never recorded, Van der Merwe and Scully (1971) estimated that over 10 000 tons of copper ore were mined from Lolwe.

Two radiocarbon dates from the mineshafts, dated to 950 ± 60 b.p (Y-1635) and 1180 ± 80 b.p (Y-1636) (Stuiver and van der Merwe 1968), indicate that the mine was in operation from the 8th century (van der Merwe and Scully 1971: 180). Recently, Killick et al. (2016: 12) have suggested that the early date (Y-1636) may be a result of an “old wood problem”, and argue that the second date, corresponding to the earliest evidence of habitation and metal working in the region, likely reflects the beginning of mining at Lolwe Hill. Other smaller copper mines were also exploited in Phalaborwa. The Old Guide Mine is one such site, located on the farm Schiettocht, about 6.4km north west of Lolwe Hill (More 1974: 229) (Fig. 4.4). Mining at Old Guide Mine was on a small scale and mainly opencast, similar to the depressions near Aprilkop, also located within the vicinity of Phalaborwa (More 1974: 229). No systematic archaeological research has been undertaken at these sites.

4.6 Archaeometallurgy of Phalaborwa

A significant amount of research has been done on the technology of metal production in the Phalaborwa region (van der Merwe and Killick 1979; Pistorius 1989; Miller et al. 2001; Thondhlana 2013; Thondhlana et al. 2016; Killick and Miller 2014; Killick et al. 2016). This research has demonstrated the exploitation of copper and iron sources at a range of early and late occupation sites in Phalaborwa and its surrounds. Excavations at Nareng, Kgopolwe and Shankare confirm that copper and iron were smelted and smithed from the early second millennium AD (Pistorius 1989; Miller et al. 2001; Thondhlana 2013). Copper carbonate ores, such as malachite and azurite, and magnetite and magnetite-ilmenite ores, both of which occur in association with the Lolwe ore body, were smelted (Miller et al. 2001; Killick and Miller 2014; Killick et al. 2016). Single-port domed furnaces and three-port triangular furnaces have been documented at a number of sites in Phalaborwa, including Shankare (Mason 1986; van der Merwe and Scully 1971; Miller et al. 2001). These different styles of furnaces have been linked to different functions, with copper-furnace styles falling within the range of single-port domed furnaces (see also Miller et al. 2001; Thondhlana 2013), with minor variations (Pistorius 1989: 189-190), and iron furnaces characterised by a triangular base plan and three tuyère port entries (Miller et al. 2001; Thondhlana 2013). The problem of co-smelting copper and iron, as a result of their co-mineralisation in the Lolwe ore body, has been documented historically in the region (Mamadi 1940). Killick et al. (2016: 22) suggest that single-port copper furnaces functioned to reduce heat in the furnace, thus preventing the reduction of the iron present in copper ores.

Thondhlana (2013, 2016) confirmed that the copper used in the 10th- to 13th-century occupation phase at Shankare reflects the chemical signature of the Lolwe ore source, thus further corroborating the evidence for the antiquity of copper mining at Lolwe Hill. Furthermore provenancing studies of ores from Phalaborwa have been instrumental in establishing the use and distribution of Phalaborwa magnetite ores (van der Merwe and Killick 1979; Killick and Miller 2014). Metallurgical studies of metal-working debris from the site of Square (Fig. 4.1), an archaeological site 19.3km from Phalaborwa in the Mashishimale site complex, showed that the magnetite ore smelted at the site in the Late Iron Age was also sourced from Lolwe Hill (van der Merwe and Killick 1979). Evidence from Square revealed massive *in situ* slag heaps associated with iron production,

estimated to be around 180 tons (van der Merwe and Killick 1979; Killick et al. 2016). To date, these are the largest slag heaps documented in southern Africa.

4.7 Archaeological evidence of resource exploitation in the Lowveld

There are a number of other resource locales in the Lowveld that have been explored archaeologically. These provide some important comparisons in considering the organisation of production at Phalaborwa and indicate the potential diversity in resource exploitation strategies in the region. Harmony is a copper mine (Fig. 4.1), located approximately 60km south west of Phalaborwa (Evers and van der Berg 1974; Evers 1975, 1979; Chatterton et al. 1979). At the site complex of Harmony, Evers (1975: 71) documented a central village, with a soapstone factory, salt factory and copper mine, all within an 8km radius. The saltworking factory, located on the banks of the Makhutswi River, close to a salt springs, consisted of large heaps of ash and soil, with associated blackened soapstone bowls that were likely used for heating and processing the salt (Evers 1975). A soapstone bowl factory area, with evidence of the quarrying of soapstone from five large outcrops, was also documented in the area. Evers (1979: 106) suggested, based on the distribution of evidence for the manufacture of soapstone bowls close to the outcrops, that manufacturing took place here.

The copper mine at Harmony consisted of 25 units, composed of shafts and open stopes (Evers and van der Berg 1974). A single date obtained from one of the tailing dumps dated to AD 690±90 b.p. (RL-207). Copper carbonate ores appear to have been processed adjacent to the mine (Evers and van der Berg 1974: 222), and smelting took place within a 100m radius of the mine, in single-port furnaces similar to those found at Phalaborwa. However, Evers also documented the presence of ore in the village site, suggesting that smelting may also have taken place in domestic contexts. Ceramics at Harmony confirm the presence of Eiland (contemporary with Kgopolwe) and Letaba (AD 1700–1900). This potentially indicates that the mining and processing of copper at Harmony took place over a long period.

The Baleni salt springs (Antonites 2016) located 60km north of Phalaborwa were exploited from the Early Iron Age, associated with Mzonjani ceramics (AD 350–650). These salt springs appear to have

been continually exploited up until the historical period, and indeed until today (Antonites 2016: 40). Evidence from the site, in the form of large salt-processing mounds, indicates that this exploitation likely occurred on a part-time seasonal basis.

4.8 Sites with a long occupational chronology: Kgopolwe, Nagome and Shankare

There are three known sites that have both an early and a late occupation phase in Phalaborwa and the adjacent Kruger National Park: Kgopolwe, Nagome and Shankare. Kgopolwe Hill is a prominent hill located in the modern town of Phalaborwa (Fig. 4.4). It is considered a royal village site of the baMalatji, and has a very prominent place in the oral history of the baPhalaborwa (Scully 1978). Kgopolwe is also associated with the burial place of prominent leaders such as Meele and Makikele (Scully 1978: 285-286). Four areas were excavated at Kgopolwe by van der Merwe and his team. The first two, Kgopolwe 1 (SPK 1), a terraced site, and Kgopolwe 2 (SPK2), another terraced site, both dated 17th to 19th century (van der Merwe 1971). Kgopolwe 3 (SPK3), excavated at the foot of the hill on the northern flats, date between AD 950 and 1150 (van der Merwe and Scully 1977). Kgopolwe 4 (SPK4), an iron-smelting site 365m west of the hill, has associated dates in the 13th century to 15th century date range (Fig. 4.5).

Excavations of SPK 3, the 10th–13th century component of the site, located on the northern foot of Kgopolwe Hill, provided evidence of a domestic context with associated metalworking. In this excavation area—large portions of which were described as “ash midden”, averaging a depth of 60cm—6 hut floors and a male burial in a flexed position were uncovered. Evidence of copper production was found intermixed in this domestic context, and included the recovery of a “small clay crucible”, slagged crucible sherds and slags (Evers and van der Merwe 1978: 88). Two copper plano-convex ingots were recovered between two overlaying house floors in association with a pot containing copper slags (Miller et al. 2001; Miller 2010).

Nagome was destroyed by modern mining activities in the 1980s, and the site has completely disappeared under a large tailing dump that encompasses the area. Furthermore, only partial excavation reports remain from research undertaken at Nagome Hill. Two 30m-long trenches were excavated on the “flats” to the southeast of Nagome (MN3) as part of a rescue excavation by van

der Merwe and his team. These excavation trenches uncovered two house floors and a 12th–14th century occupation (Evers and van der Merwe 1987: 89). Excavations on the terraces at Nagome (MN4 and MN5) revealed that the terraces were occupied in the Late Iron Age occupation of the region (see also Fig. 4.4).

Very little oral historical information exists with regard to the occupation of Shankare, an interesting observation given that most kopjes in Phalaborwa are associated with particular histories and identities that remain known today. Pistorius suggested that Shankare Hill may have once been used as the residence of the ruling Maseke-Malatji lineages (Plug and Pistorius 1999: 160, 164). However, there is no evidence of this situation in the oral history recorded by Scully (1978), in which places and landscapes associated with key historical figures feature prominently. Recent settlement history identifies the last inhabitants of the hill as 19th-century Tsonga immigrants, as reflected in the name “Shangaankop/Shankare” (the term Shankare is thought to be a Sotho corruption of “Shangaan”). Given the highly political nature of land ownership in Phalaborwa in the 20th century (see also Chapter 3), the question of the original and successive occupants of Shankare remains unknown.

Shankare was first documented by More (1966), who photographed a copper (single-port) furnace on the eastern side of the hill, which has subsequently been removed. Shankare was excavated between 1964 and 1967 by Mason (Mason 1965, 1986), who referred to the hill as “Shangaankop”. Mason (1965, 1986) exposed an iron furnace (10/64) and excavated two trenches in two ash middens on the northern and eastern slopes of Shankare (11/64 and 12/64). He also documented an iron-smithing area east of Shankare (3/67), which, however, has been destroyed by the road that runs along the east of the site. This area was somewhat secluded from the domestic occupation of the terraces by a wooden fence, a phenomenon Pistorius (1989) noted as characteristic of the secondary refining of iron at some of the later Iron Age sites in Phalaborwa. Mason (1986: 112-115) identified one occupational phase at Shankare, from the 17th to the 19th century, but did not identify the earlier occupational period. He argued, on the basis of his excavations, that the site was a production centre, and suggested that iron was the main focus of metallurgical activity.

Pistorius’s (1989) research at Shankare included the surveying and mapping of 18 terraces. Pistorius documented residential remains and the secondary working of copper and iron on most terraces

(Pistorius 1989: 235-238). Pistorius also excavated a copper reduction area at the base of the northern slopes of the hill (SHA2M1) (Pistorius 1989: 239-241). This excavation revealed evidence of the preparation of copper ores and the smelting and melting of copper in this locale. Production residues—in the form of crushed and semi-crushed copper ores (malachite), crushed copper slags, two small crucibles (Fig. 4.6), and large fragments of broken furnace wall—were found, along with two clay floors.



Figure 4.6 One of two small crucibles recovered by Pistorius (1989: 404).

A date obtained from this excavation, 890 ± 50 b.p. (Pta-4443), calibrated to between AD 1046 and 1278 at two sigma, provide an early date for the production of copper at the site, and the earliest *in situ* evidence for extractive metallurgy at Phalaborwa (Pistorius 1989: 8).

As part of his doctoral research, Thondhlana (2013) performed surveys and excavations at the site of Shankare in 2010. Thondhlana (2013) excavated two areas: SHASH1 and SHAM1. SHASH1 was a 2m by 1m excavation, targeting a high density area of slags, tuyères and metalworking debris area on the northern foot of the hill. Archaeometallurgical studies revealed that the material remains from this area reflected iron production. Excavations at SHAM1 revealed a dense midden deposit

with cultural material, metallurgical debris reflecting copper production, and other evidence of domestic occupation dating to the earlier occupation of the site (10th–13th century). His excavations preliminarily indicated that copper slags were found in scatters in the middens and on the surface, in contrast to the iron slags that were concentrated in clusters, suggesting that the spatiality of the production of the two metals differed.

4.9 Summary and research gaps

Previous archaeological and archaeometallurgical research in Phalaborwa has been critical in establishing the chronology and extent of archaeological occupation in the region, and the distribution of sites and metalworking debris, as well as in reconstructing the technology of metalworking. However, certain research gaps warrant attention. In particular, the organisation of the production of metals and the context of metalworkers within the regional political economy of both occupational periods have largely remained unexplored. Limited research at early sites and the partial publication of the full excavation details of Nagome and Kgopolwe have also hindered our understanding of the organisation of production in this early period. Based on the prevalence of historical sources indicating the importance of metal production in the regional economy of the Lowveld, and the ubiquitous presence of imported items such as glass beads at the 18th- and 19th-century sites in Phalaborwa, a number of authors have suggested that production in the earlier period was on a small scale for domestic or region consumption, in contrast with the later period in which metals were clearly produced for export to the wider region and beyond (Pistorius 1989; Miller et al. 2001; Thondhlana 2013).

However, such observations have not been critically tested against the archaeology, particularly in terms of regional interaction in the early phase of occupation at Phalaborwa. Furthermore, while metals were clearly exported in the later period of occupation, there still remains a dearth of information regarding how metal production and distribution were organised, and how they fit in with wider regional interaction spheres. The occupational chronology of Phalaborwa, in comparison to the regional sequence (Fig. 4.2 and Fig. 4.4) potentially indicates an ebb and flow of occupation that can further be explored in the context of the regional political economy. Additionally, research

at the surrounding sites of Harmony, Square, and Baleni indicate potentially variable manifestations of the organisation of production in different time periods in the Lowveld. The context, scale, intensity, and concentration of the organisation of production at these sites, the connections between these point sources, and the types of interactions that may have defined these connections are all areas that remain to be further explored.

The relationship between metallurgical remains and domestic space at metal-production sites in Phalaborwa needs to be explored in greater depth, and previous excavations have been limited in size and variability. At the site of Shankare, both Mason and Pistorius commented on the evidence of an extensive occupation on the northern side of Shankare Hill, in the form of large midden deposits, slag debris, and worked stones, arguing that this required further attention and research. Similarly, while Thondhlana's (2013) research has been key in establishing the *chaîne opératoire* of copper production at Shankare, excavation areas were limited and there remains a clear need to sample larger areas of the site, addressing issues of the spatiality of production and occupation, domestic activities, and the domestic economy. These gaps provide the impetus for new fieldwork. It is to this fieldwork that the next chapter turns.

Chapter Five:

Fieldwork at Shankare

“One will know if you find the grave of a chief or not. At a chiefs grave you will find a pot, or at an important female’s grave you will find her pot and grinding stone.” (Adam Mhlongo, a heritage officer at the Palabora Mining Company).

5.1 Introduction to chapter

The rationale for fieldwork is situated within the research aims of this thesis: namely, to explore the structure and context of a production locale within the regional political economy. To address these aims, and particularly the organisation of production and the interface between the domestic and regional economy, an in-depth analysis of a single metal-production locus was required. The importance of selecting a site with a known long occupational chronology informed the choice of Shankare (Fig. 5.1) for detailed research. Shankare is located on the premises of the Palabora Mining Company (PMC). Fieldwork undertaken at Shankare comprised of reconnaissance surveys, followed up with an extended field season in the winter June–July months of 2012. This research was conducted under the permit 80/09/08/015/50, issued by the South African Heritage Resource Agency (SAHRA). Research strategies at Shankare were focused on identifying the spatiality of activity areas and chronology of the site. This process required a combination of surveys, mapping and detailed excavations.

5.2 Survey and mapping

Site mapping combined aerial and pedestrian surveys followed by an intensive survey using a total station. Aerial surveys may facilitate the observation of topographical or vegetation changes not otherwise visible from the ground (Feder 1997). A simple review of satellite imagery from Google

Earth revealed the presence of a clearly differentiated vegetation zone around the northern base of Shankare hill, evinced by the lack of dense tree growth in this region. This discovery potentially indicated areas of archaeological deposit.



Figure 5.1 View of Shankare Hill from the northeast.



Figure 5.2 Google Earth image showing Shankare Hill in relation to the immediate surroundings, including the PMC tailing dump to the north and Shankare 3 to the west.

Pedestrian reconnaissance surveys were then conducted in the immediate vicinity and surrounds of Shankare. The aim was to establish the distribution of archaeological deposits and the relationship between the site and immediate surrounds. Pistorius (1989) visited the kopjes adjacent to Shankare and noted ephemeral deposits. He labelled these adjacent kopjes Shankare 2 and 3 (Fig. 5.2). While the site of Shankare 2 has now been encompassed in the PMC tailing dumps, a visit to Shankare 3 revealed the presence of low freestanding walls on the summit of this hill. This settlement, as Pistorius suggested, appears to date to the late occupation of the region, evident in the presence of Letaba ceramics and stonewalling.

Pedestrian surveys confirmed that the zone of archaeological deposit identified in the aerial surveys on the northern flats of Shankare hill was not caused by the presence of a vlei or a water-logged zone. This region was indeed slightly elevated, with the topography dropping off to the west and east. Below the base of Shankare 3 was another region with an absence of trees (evident in Fig. 5.2). However, in this instance, this vegetation pattern was a result of a water drainage that ran along the base of the hill.

Pedestrian surveys confirmed that the distribution of the major archaeological deposit at Shankare was focused on the northern slopes and flats of the hill. Here the deposit clearly tapered off to the north towards the base of the PMC tailing dumps (Fig. 5.2 and 5.3). Sections cut by erosion gulleys in this region, that facilitate water runoff from the area, revealed the absence of archaeological material in the area. Additionally, small terraces and ash deposits were noted on the southern slopes and on the flat areas adjacent to the hill. Similarly, on the western side of Shankare Hill, an archaeological ash layer was exposed in the sections made by the recent excavation of a large burrow pit (Fig. 5.3). This deposit tapered off in a westerly direction.

The combination of aerial and pedestrian surveys indicates that the deposit surrounding Shankare Hill forms a distinct archaeological feature that does not extend beyond the base of the hill into the adjacent lower lying regions. This finding provides the rationale for defining this area as a distinct archaeological site.

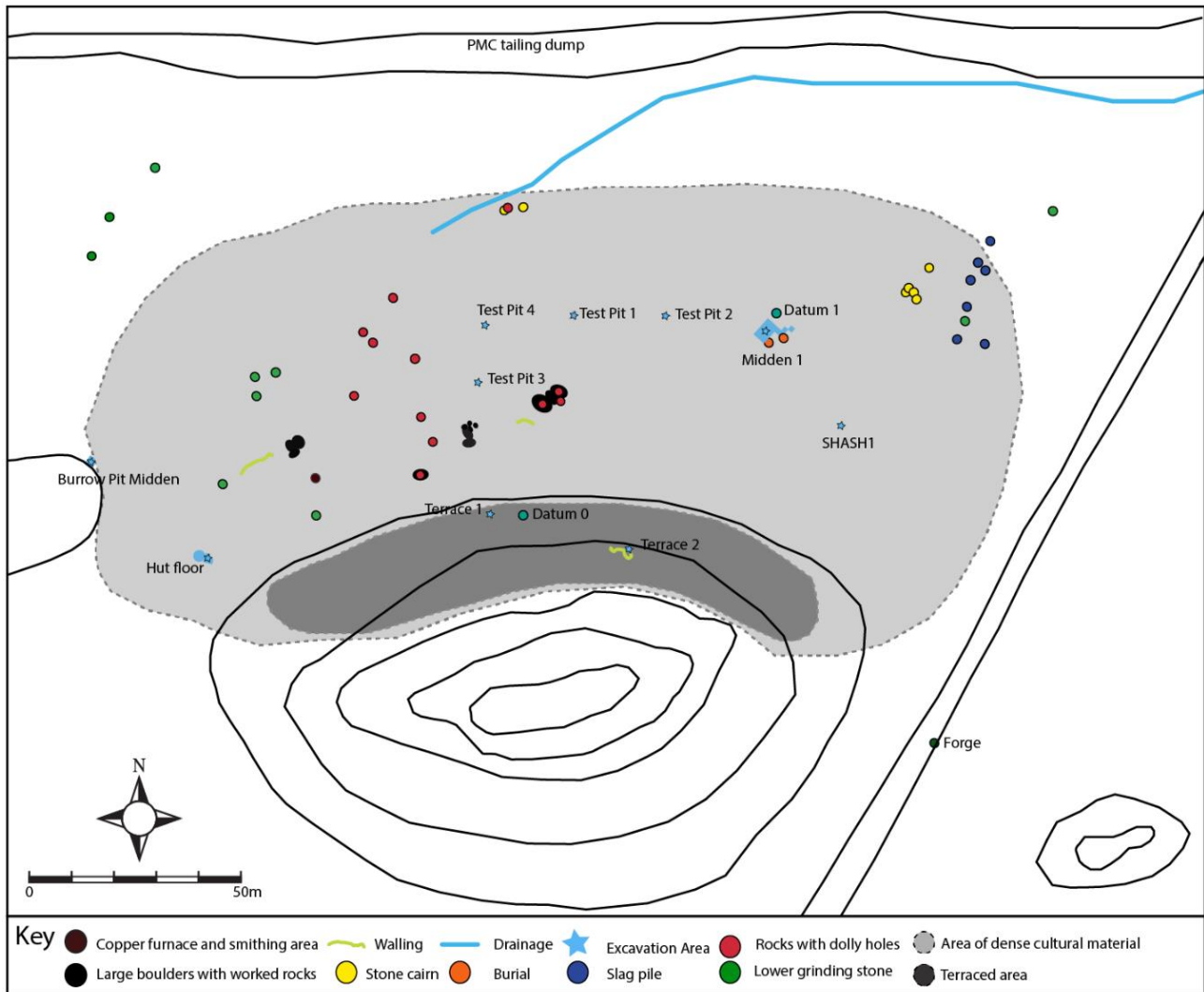


Figure 5.3 A map of Shankare showing the distribution of cultural material and the location of excavations and identified activity areas.

Pedestrian surveys identified different areas and specific features of the site, including hut-floor remains, midden debris, scatters of metallurgical debris, worked stones, and other activity areas. A total station facilitated the accurate mapping of these areas, including artefact scatters, features and excavation areas. This data was then compiled into a map (Fig. 5.3).

Worked stones from both surface mapping and excavation areas provided further indications of the various activities taking place at the site. Lower grinding stones (Fig 5.4:1) were recorded in different areas on the northern flats of Shankare Hill (Fig. 5.3). These were likely used for the processing of grains such as sorghum (Huffman 2007: 454).

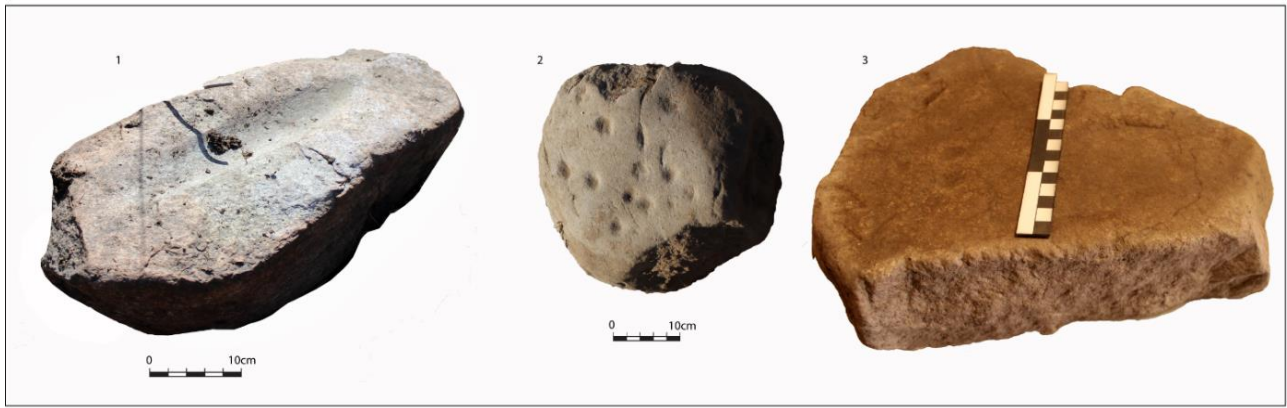


Figure 5.4 1: lower grinding stone, 2 and 3: worked stones.

Rocks with dolly holes (Fig. 5.5) were likely used in the processing of ores, particularly the crushing of malachite and azurite for copper smelting. Similarly, magnetite ores from the Phalaborwa igneous complex would have had to have been crushed before smelting (Killick and Miller 2014).



Figure 5.5 Large boulder on the northern slopes of Shankare hill, with grinding grooves and dolly holes.

5.3 Excavation areas

Pedestrian surveys formed the basis for developing an excavation strategy aimed at targeting a range of potential domestic and craft activity areas across the site. Sampling strategies were confined to the terraced areas, the large middens at the foot of the hill, and evidence of occupation in the form of hut floors as well as potential metallurgical activity areas. Standard excavation procedures were adapted to suit the context of the research (Drewett 1999: 107), with excavations focused on a combination of test pits and larger excavations in order to maximise samples from middens and feature excavations.

5.3.1 Midden 1

The accumulation of a midden deposit on the northern flats of Shankare is evident in the presence of eroding ash and cultural material, the predominance of *Cenchrus ciliaris* grass, and an unnaturally elevated ground height (Fig. 5.3). Thondhlana's (2013) earlier excavations exposed a midden and cultural deposit in this region. The excavation area of Midden 1 was positioned abutting Thondhlana's (2013) excavation for control purposes (Fig. 5.6). The extension provided comparable sample of material and refined the stratigraphy of the midden area.

The midden 1 excavation consisted of an 8m² trench. Excavations proceeded in 1m² units in 10cm spits. However, at the end of the excavation, the stratigraphy was defined and drawn following natural strata. Finds were carefully and laboriously sieved through a 1.5mm sieve so as to optimise the recovery of small finds such as glass beads and melting prills.

Three stratigraphic layers were identified in Midden 1 (Fig. 5.6). The top layer (0–30cm) was a dark-brown ash layer, relatively compacted on the surface and made up of compact grey-brown granular soil. The second is a lighter ash layer (30–50cm) of soft grey ash. The third layer (50–70cm) was composed of reddish soil, reflecting its proximity to the natural soil horizon and with lower densities of cultural material. All three layers graded into each other with no clear stratigraphic breaks between them. This applied in particular to the increasingly red layer towards the bottom of the midden. A hard red sterile soil was reached at 70cm.

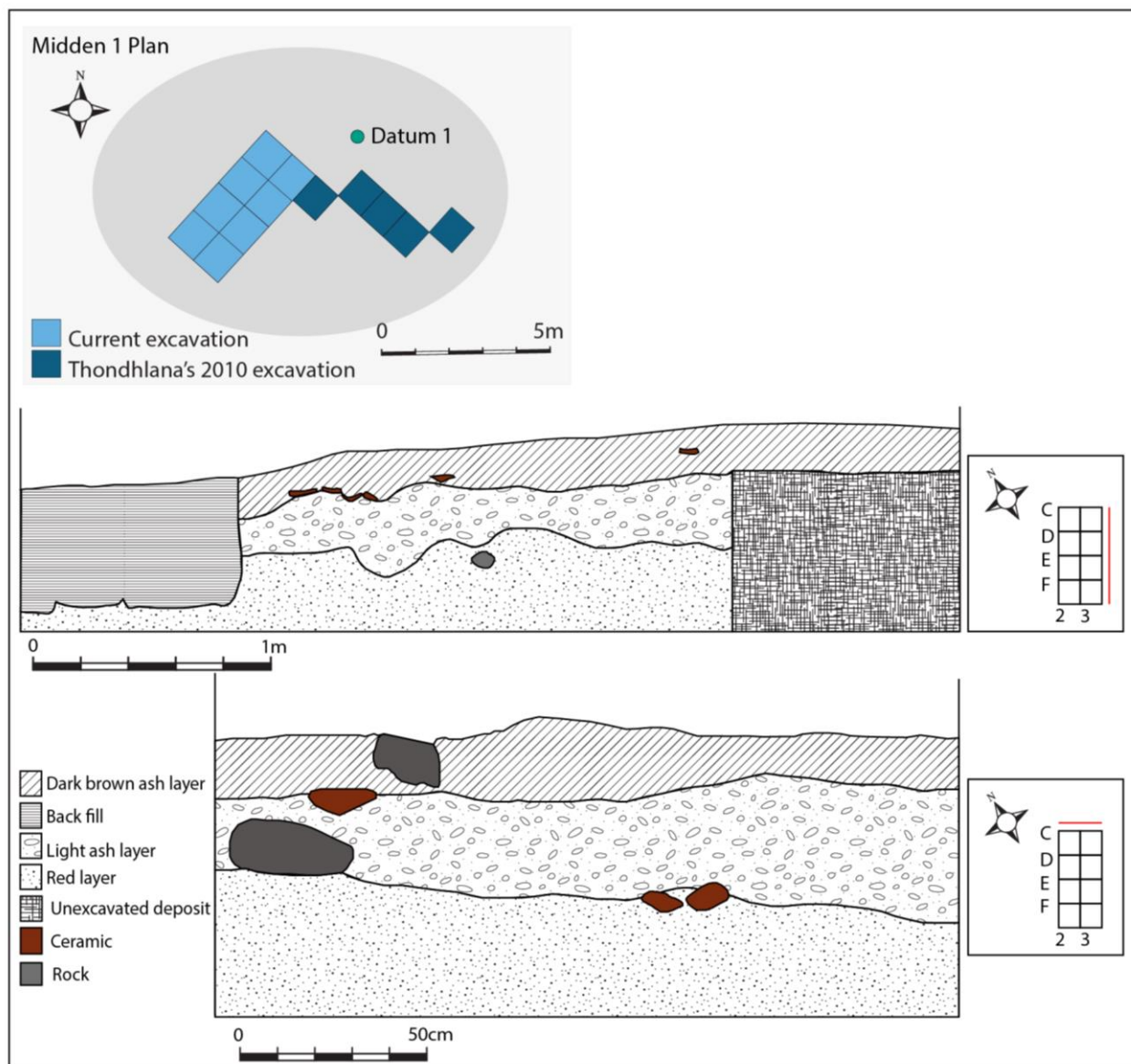


Figure 5.6 Northeast (above) and northwest (below) section of Midden 1. The unexcavated deposit (depicted in the northeast section) lay below the burial.

The distribution of finds conformed to expectations of a midden context for the most part, with finds of fauna, ceramics, metalworking debris and other material intermixed in an ashy matrix. There was a greater density of material in the top 30cm, which tapered towards the lower levels, with relatively few finds retrieved from the red basal layer. Three features were noted and

recorded in Midden 1. The first was a deliberately buried pot found in square F2 at the 20cm line (Fig. 5.7). The pot, a complete necked bowl, was uncovered in spit level 2 but extended into spit level 3. The vessel was buried upside down and subsequently pierced by a small hole through the base of the vessel. Another large piece of an undecorated broken pot was placed on top of it. Ostrich eggshell beads and charcoal were recovered from inside the pot, although these finds may have come from the midden deposit below.

The deposition of complete pots such as that recovered from Midden 1 is not uncommon in Iron Age archaeology, and this practice has been documented at both first and second millennium sites in South Africa (Boeyens et al. 2009). The deposition of complete vessels in this manner is often associated with the burials of infants or adults (Ohinata and Steyn 2001; Boeyens et al. 2009; Hattingh and Hall 2009). One type of burial pattern associated with infants and ceramics resulted in the burial of infants in an inverted pot. Often the base of the vessel was then broken subsequent to deposition. Most pot burials of this type have been found in association with ash middens or hut floors (Boeyens et al. 2009: 224). A number of authors have argued that this practice, particularly in relation to infant and child burials, was linked to a process of mitigating the polluting effects of the untimely death of an infant on the mother and the broader community (Boeyens et al. 2009; Hattingh and Hall 2009).

The pot at Shankare was not associated with any human remains. However, it may be the case that there were remains in the pot that were not preserved. Alternatively, not all pot burials of similar appearance are associated with burials. Ohinata (2002: 39) documented a cluster of inverted pots, with their bases broken, outside of a kraal deposit of the 17th–19th century site of Simunye in Swaziland. As Ohinata (2002: 40) writes, the metaphorical and symbolic association between pottery and people, widely noted in southern African ethnography, frequently materialises issues to do with fertility, procreation and the ancestors.

A prepared daga floor was exposed at the 30cm level in D2, extending into E2 (Fig. 5.7). This floor was a circular structure about 1m in diameter, and appears to be surrounded by large rocks. A lower grinding stone was also placed upside down on one of the rocks abutting the floor. The floor, which had been disturbed by tree roots on one side, making its complete reconstruction difficult, appears to have been slightly concave. The size and potential circumference is probably too small to indicate a hut floor. Instead, the floor remains may have been those of a granary base. Granary

bases have been recovered from both first and second millennium AD sites in southern Africa (Huffman 2007: 8), and, despite having different forms, all provide a raised surface and this function can certainly be ascribed to this small circular structure. Thondhlana (2013: 182) also encountered a floor in SHAM1 at 50cm below surface. This floor was not well preserved, but the presence of two floors in the midden suggests that the spatial use of this area changed through time and that the sequence is a composite set of events.

In the south-east corner of F2, our excavation uncovered a burial towards the 20cm level. The proximal end of the tibia and the distal end of the femur were exposed, indicating that the skeleton was buried in a flexed position facing south. The remains appeared to be in good condition. There was no evidence of a burial shaft in the deposit, although the soil was slightly harder and more compact above. No distinct cultural material was recovered in association with the burial, although this does not preclude material being deposited in the unexcavated parts of the burial. The exposed remains were photographed and recorded before being covered carefully with sandbags. The conditions of the permit for archaeological research at Shankare did not allow for the removal of human remains.

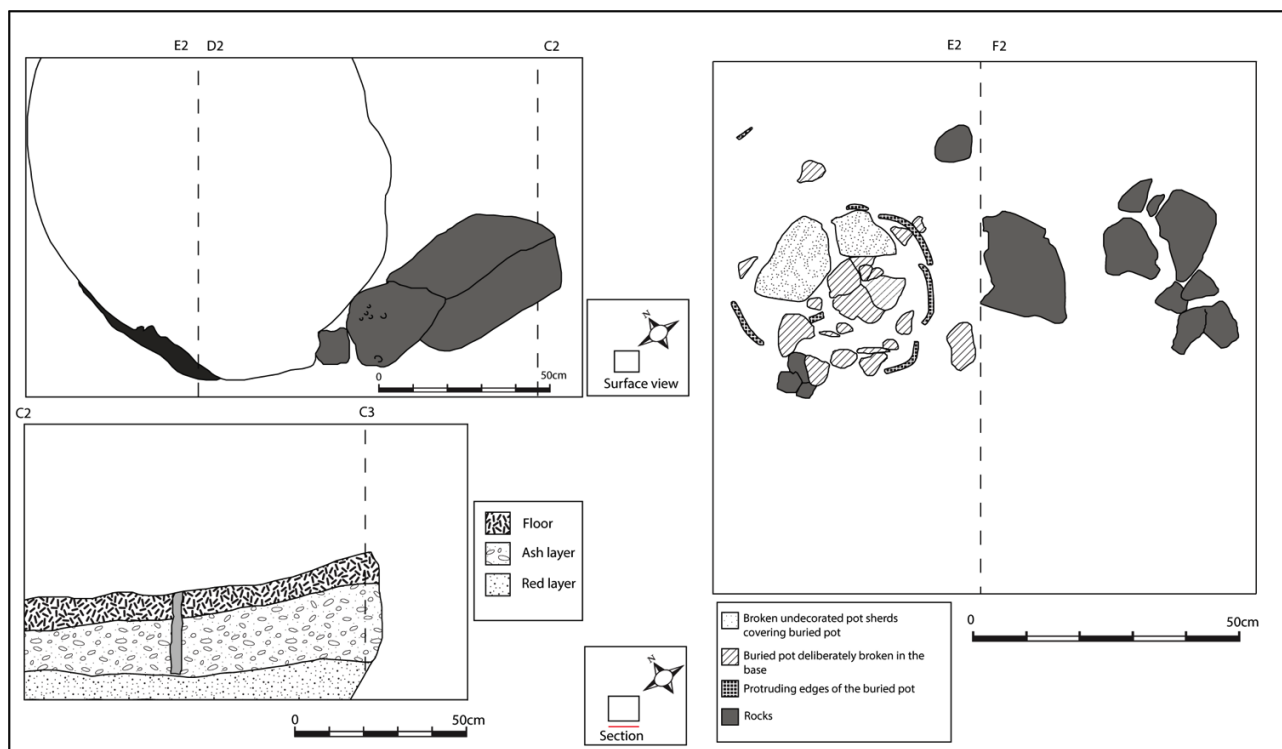


Figure 5.7 Excavated features in Midden 1. A prepared floor (on the left) and a complete vessel buried and deliberately broken in the base (on the right).

5.3.2 Hut floor

The hut floor (Fig. 5.3 and 5.8) had been identified in the reconnaissance surveys of Shankare. The floor is situated on the west of Shankare Hill, adjacent to an animal/human path that closely skirts the bottom of the hill. After setting up, a grid excavation was initiated by removing the top daga layer (representing burnt daga collapse) to expose the surface of the floor. The daga consisted of large solid blocks, including fragments with different-sized pole impressions. The large amount of daga collapse on the floor may potentially indicate a cone-on-cylinder structure (Huffman 2007: 7-8). The floor was disturbed in parts, by termite activity and a large tree root (Fig. 5.8). In the well-preserved part of the floor, a pot socket was visible; in it, a fragmented undecorated pot and a small number of fragmentary animal bones were found. An upper grindstone was resting on the

south-east side of the floor. The small number of finds from the floor surface included pottery, a few pieces of slag, small fragments of copper ore, and glass beads.

Towards the back of the floor, on the south-east edge, an extended excavation area was established and three 1m² excavation units were opened. The top 10cm of this excavation were characterised by a very hard and consolidated layer, in which a daga feature was exposed, possibly representing an extension of the hut floor or a back platform of the hut. Finds from this layer included glass beads, slag, daga and fresh water shells. This layer was followed by a hard compact humic layer, under which an ash midden characterised by soft grey ash was reached at approximately 15cm. In the midden, finds of large bones, diagnostic sherds of decorated pottery, charcoal, slag, and beads were recovered. The ash midden ended after 15cm, evident in the appearance of sterile red rocky soil, approximately 15–20cm below the hut floor. The hut floor was built on top of this ash horizon, and indeed from the section (Fig. 5.8) one can see that the ash layer continues underneath the floor.

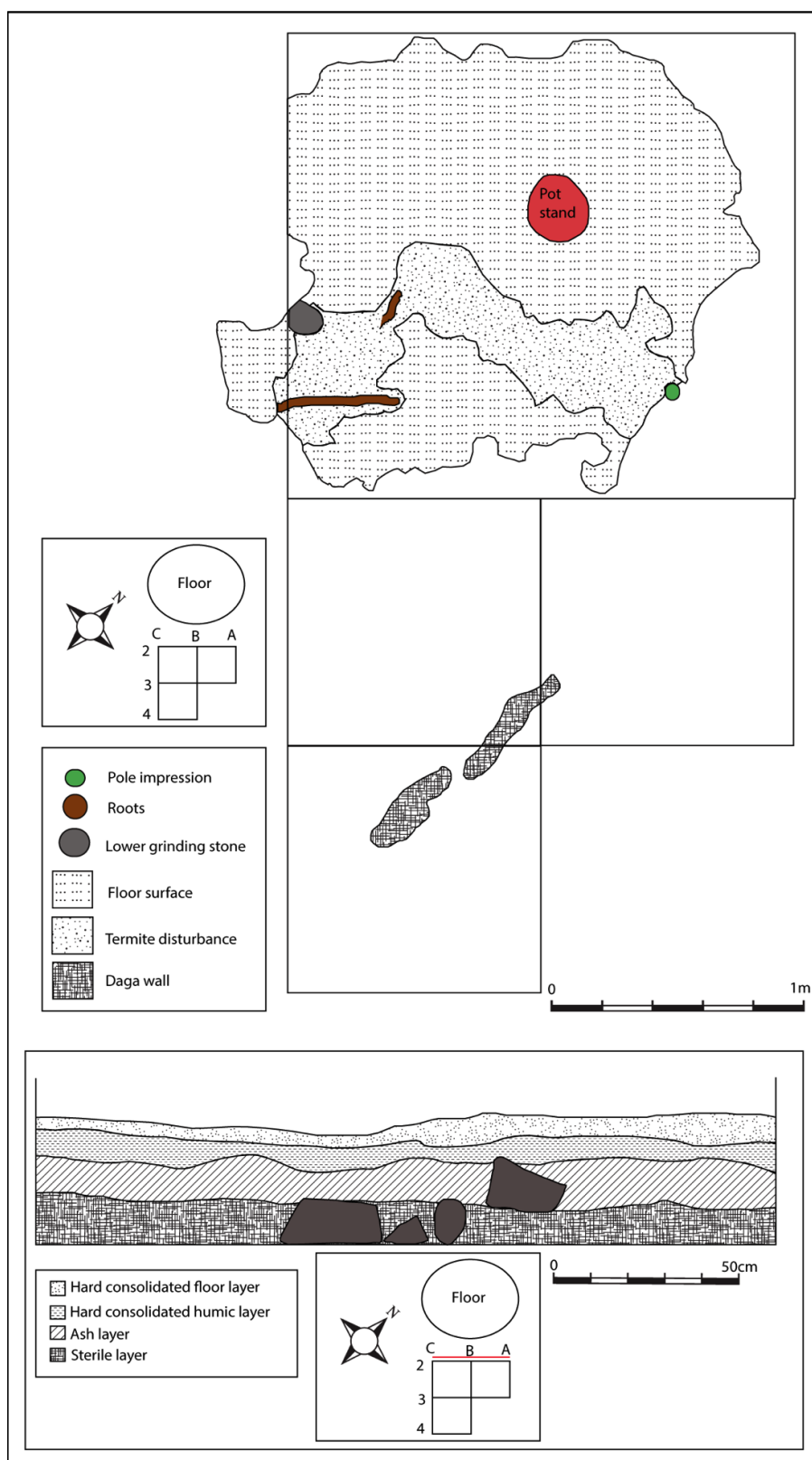


Figure 5.8 Plan of the hut-floor-related excavation areas (above) and the northwest section of the Hut Floor excavation.

5.3.3 Burrow Pit

This excavation targeted a capped midden deposit revealed in the section of the burrow pit⁸ (Fig. 5.3 and 5.9). The location of the Burrow Pit excavation on the western parts of the hill is relatively close to the hut floor and provided an opportunity to identify another activity area and refine and extend the chronology of the site.



Figure 5.9 View of the eastern section of the burrow pit, with Shankare Hill in the background.

A 5m² excavation unit was established (Fig. 5.10). Initially, excavation proceeded in 10cm levels, but clear stratigraphic horizons, already partially visible in the burrow pit section, resulted in excavation in three layers: namely, the “above ash”, “down to ash”, and “ash” layers. The “above ash” layer was a dark red/chocolate brown soil layer, with cultural material that included a mixture of slag,

⁸ Contractors on the mine partially destroyed this area of the site while removing soil to cover active mine dumps in other parts of the mine. This activity contravened the heritage-management plan for Shankare. Mine authorities were eventually contacted, and no further removals have taken place

pottery, bones, and small finds. The material in this layer was more fragmentary than deposits from the ash layer below, Midden 1 and the Hut Floor midden, and likely represents a dispersed and broadcast accumulation of cultural material rather than a specific dump. The “down to ash” layer was a mixture of the ash and the above ash layer, and characterised by gritty brown soil. The “ash” layer (reached at +/-30cm) was composed of a fine grey ash. The base of the ash clearly lay on a hard red sterile horizon. Although the ceramics are stylistically similar throughout this deposit other finds in the ash layer differed from the above ash layer. Very little slag was found in the ash deposit, although crucible sherds and metal prills were present. The ceramics and fauna recovered from the ash layer were larger and more complete than the above layers. A fragment of a cowrie shell, a copper wire, and a carbonised marula pip (the fruit of a *Sclerocarya birrea* tree) were among the small finds.

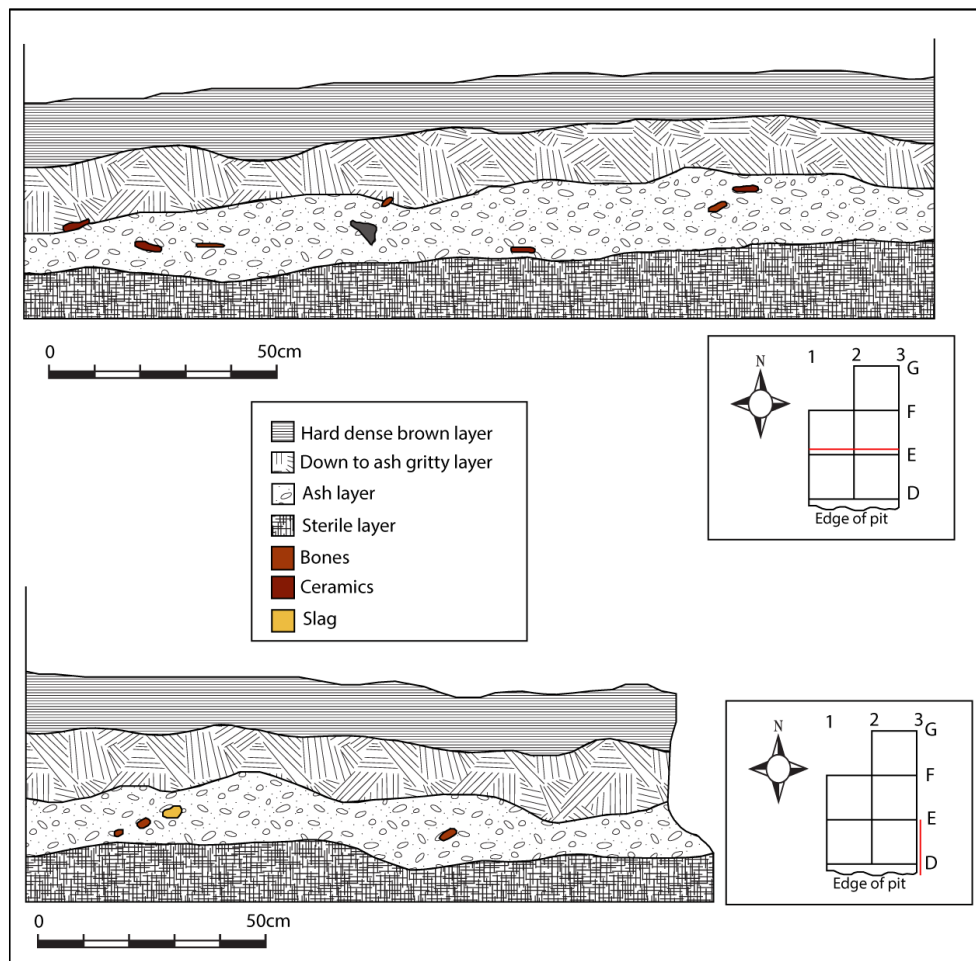


Figure 5.10 Northern (top) and eastern (bottom) sections of the Burrow Pit excavation area.

5.3.4 Test Pits

Test pits were established in strategic areas that, based on the surface topography and finds, represented different activity areas of the site (Fig. 5.3). Such a sampling strategy maximised the potential of exploring different activity areas at Shankare. With the exception of Test Pit 1, deposits from other tests were excavated by stratigraphic horizons. Bulk samples were taken (every third bucket) from each stratigraphic horizon identified. Due to equipment constraints, a 3mm sieve was used, potentially inhibiting the recovery of small finds such as glass beads.

Test Pit 1

Test Pit 1 (TP1), set up to the west of Shankare Midden 1 (Fig. 5.3), consisted of two 1m² excavation units. The aim of this excavation was to test an area that potentially represented a cattle byre or another large midden deposit, a hypothesis drawn from the raised ground in this area and its central location in relation to the known distribution of cultural material at the site. Although initially called a test pit, all excavated deposit was sieved and excavation followed 10cm spits.

The top stratigraphic layer of TP1 (Fig. 5.11) was a very hard, consolidated gritty brown soil. This horizon was followed by a dark ash layer, which graded into a soft, grey and ashy deposit. This stratigraphic layer continued until a reddish ash level was reached. Sterile red soil and large rocks were encountered at the base of level seven (70cm). Finds from TP1 included grinding stones, slag, furnace wall, tuyères, crucible fragments, shell beads and freshwater shell fragments, daga, pottery, fauna and other small finds. There was no evidence of cattle kraals (i.e. dung nodules or vitrified dung) but rather a high density of slag and metallurgical debris.

The density of metallurgical debris in Test Pit 1 was clearly higher than other sampled excavation areas. Metallurgical debris was concentrated in high densities in the top 30cm of the test pit and again in levels 6 and 7. In level 7, large slagged daga pieces, potentially representing broken sections of furnace wall, were accompanied by a large accumulation of broken daga pieces. This material was deposited on the original red sterile soil surface.

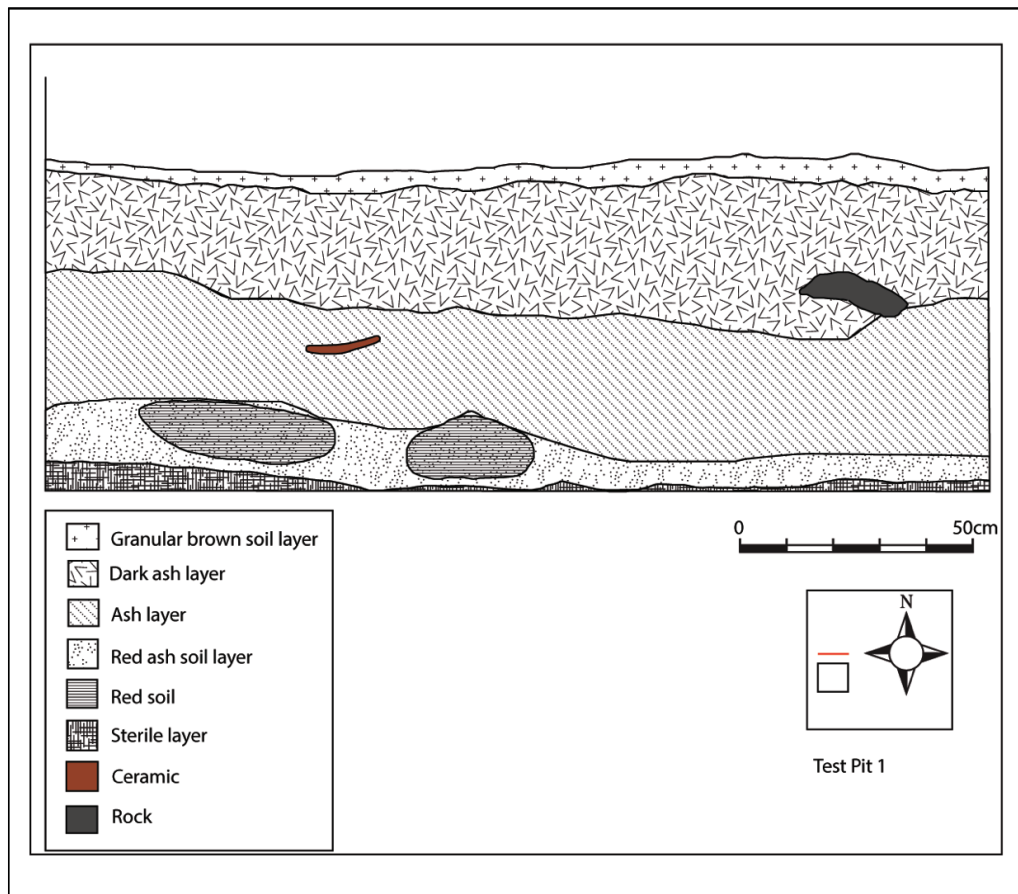


Figure 5.11 North section of Test Pit 1.

Test Pit 2

Test Pit 2 was established to the west of Midden 1 (Fig. 5.3). The aim of this test pit was to explore the nature of stone cairns that are visible on the surface. The first stratigraphic layer consisted of very hard and compact soil with large pieces of daga and rubble inclusions (Fig. 5.12). Additionally, the excavation showed that the rocks comprising the stone cairns were clearly embedded in this daga layer and contemporary with it. One rock, a large lower grindstone with a dolly hole, was recovered facing downwards.

At 20–25cm below the ground surface, a soft, grey ashy layer was exposed. Pottery decorated with herringbone motifs confirmed that this is a Kgopolwe period deposit. This ash horizon consisted of soft and unconsolidated ash, containing a high density of slag debris, large pieces of tuyère,

fragments of bone and Kgopolwe pottery. This ash horizon extended to 48-50cm below the surface, after which a reddish soil horizon appeared (Fig. 5.12). In this layer, there were also large pieces of slag, bones and pottery, but in lower densities. As with Test Pit 1, the density of metallurgical debris, particularly slag debris, was higher than that of Midden 1.

Test Pit 2 revealed the presence of a midden in this area of the site, and the presence of domestic and metallurgical activities in the area. The daga and stone piles comprising the top layer could be a dump of stones and daga debris that were discarded in this area of the site, rather than an *in situ* feature. However, alternatively it may represent the collapsed structure of a granary.

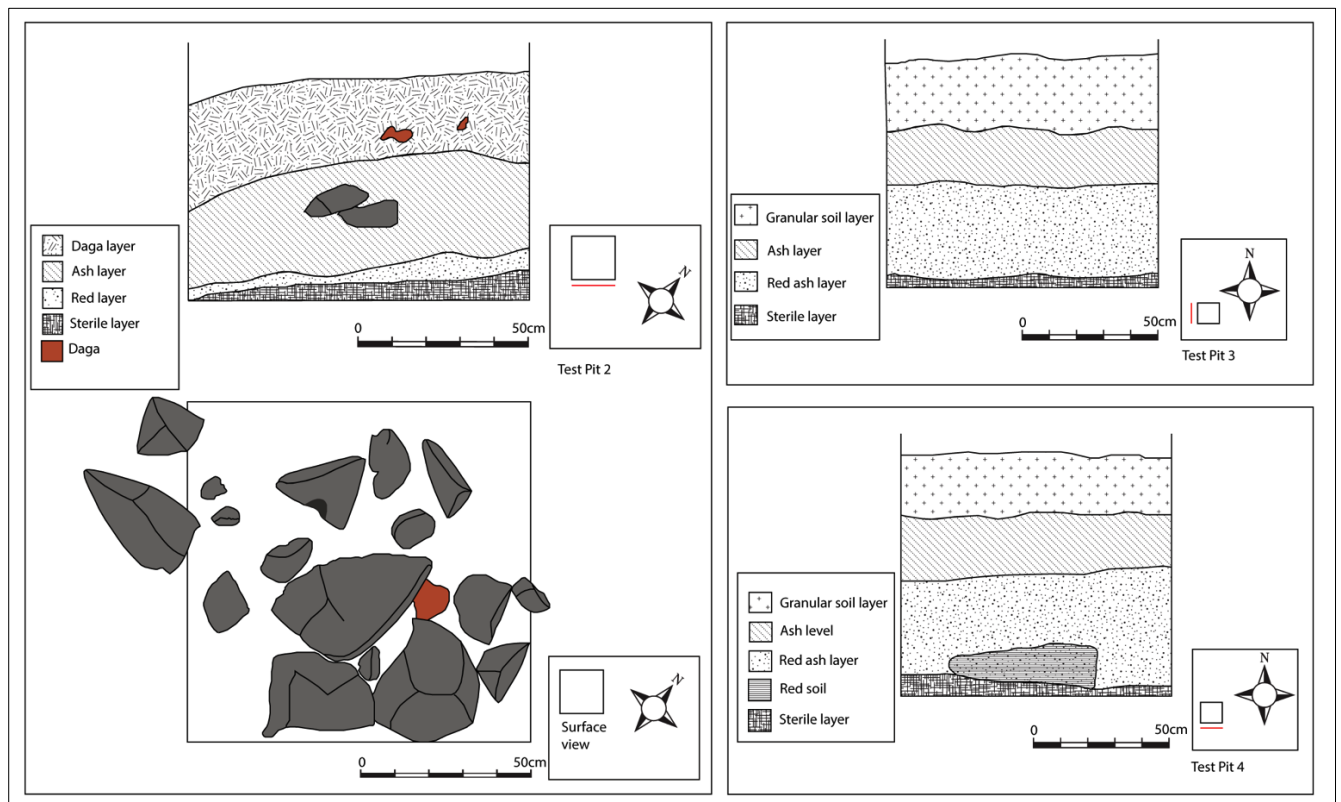


Figure 5.12 Plan and south-eastern section of Test Pit 2, and eastern and southern sections of Test Pits 3 and 4 respectively.

Test Pit 3

Test Pit 3 (Fig. 5.3) targeted an area closely associated with large boulders and worked rocks that seemed to demarcate a potential activity area. Initial surface observations indicated a small deposit but the test pit revealed an accumulation of considerable depth (86cm) from this area of the site.

The top 20cm of deposit was characterised by granular soil with fragmented finds. Below 20cm, an ash horizon was reached that then continued downwards, grading into a red ash deposit at 30cm. This red ash deposit continued until, at a 60cm depth, a soft red soil layer was encountered. Below 60cm cultural material became less frequent and dense, with finds limited to daga lumps, pottery fragments and small fragments of bone. Sterile soil, in the form of a red rocky granular level, was reached at 86cm. Large chunks of daga rested on this horizon (Fig. 5.12).

The Test Pit 3 deposit appears to be a midden, with finds including fauna, ceramics, slag, freshwater shells and upper and lower grinding stones as well as an *in situ* rock with dolly holes. There was, however, considerably less slag in this test pit compared to Test Pits 1 and 2. Kgopolwe facies ceramics were found throughout the deposit, indicating the early occupation of the site.

Test Pit 4

Test Pit 4 was located about 15m north of Test Pit 3 on the same contour as Midden 1 and Test Pits 1 and 2 but to the west (Fig. 5.3). The test pit was positioned in order to obtain a complete east to west transect of the midden deposits on the northern flats adjacent to the hill, so that the depth and density of cultural materials between Midden 1 and the Burrow Pit could be assessed and compared.

The first stratigraphic layer (Fig. 5.12) was made up of hard and compact granular soil, with many large and small stones. Finds included a large portable rock with dolly holes, one cracked upper grindstone with associated lower grindstone, pottery, daga with pole impressions, fauna and freshwater shell fragments. Level two began at 20cm and consisted of a grey, ashy horizon. The third stratigraphic layer, identified by the reddening of the soil, extended down to 90cm when the soil became red, hard and rocky. Cultural material continued into this layer, consisting of ceramics,

shell beads, a crucible and faunal remains. On the sterile layer were small amounts of slag and another crucible.

The deposit from Test Pit 4 conforms to a midden deposit, with ceramics, fauna, slag, metallurgical debris and small finds found throughout. All decorated ceramics conformed to Kgopolwe motifs, indicating an early date for this area of the site. As with the previous test pits, the depth of Test Pit 4 exceeded expectations, further confirming the extensiveness and depth of deposit in this area of the site.

5.3.5 Terrace 1 and Terrace 2

Two terrace areas (Fig. 5.3: SHAT1 and SHAT2) on the northern slopes of Shankare Hill were excavated. This area provided an important comparative context for the excavations on the northern flats. Terrace 1 comprised of a 2m² excavation in an ashy midden adjacent to but below a terraced area that had visible floors. The deposit may likely have been a result of the dumping of ash and debris from this adjacent terrace. The deposit consisted of one 30cm-deep stratigraphic layer composed of a fine grey ashy matrix (Fig. 5.13). Finds included glass beads, daga, fragments of bone, slag, shell, and limited ceramics. The basal sterile layer was evident by the presence of red soil, and large stones and rocks.

The Terrace 2 excavations targeted a large ash midden that appeared to have been partly eroded down the slope of the kopje. Five 1m² squares were excavated. The deposit consisted of fine, grey ash that was loose and unconsolidated, and appeared to be part of a single horizon (Fig. 5. 13). Finds included decorated pottery, glass beads, fresh water shell, bone, metals and other small finds.

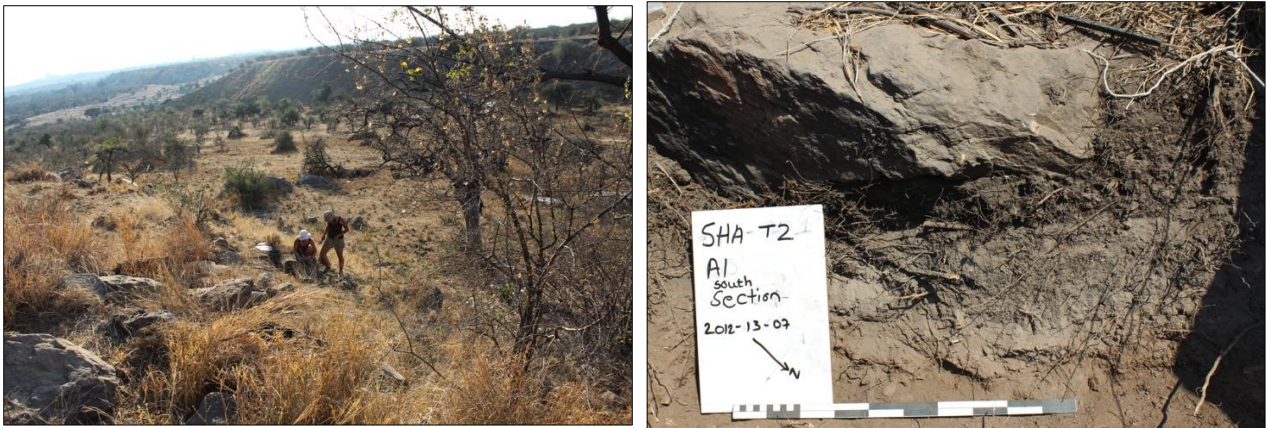


Figure 5.13 View from Terrace 2 down to Terrace 1 (left), and the single ashy stratigraphic unit of Terrace 2 (right).

Table 5.1 Size and volume of excavation areas at Shankare.

Excavation Unit	Size (m ²)	Volume (m ³)
Midden 1	8	5,6
Hut Floor	3	1,35
Burrow Pit	5	2,5
Test Pit 1	2	1,6
Test Pit 2	1	0,9
Test Pit 3	1	0,86
Test Pit 4	1	0,9
Terrace 1	2	0,6
Terrace 2	5	1,5

5.4 The dating of Shankare

Prior to this fieldwork six dates had been processed from Shankare. Mason (1968) ran two dates that, although falling in the unhelpful range of 1700–present, indicate that the terrace occupation was recent, and Pistorius (1989) ran one sample (Table 5.1: Pta-4443) that confirmed the antiquity of copper processing at the site. Excavation of Midden 1 was deliberately placed adjacent to

Thondhlana's 2013 excavation to ensure contiguity. This was indeed confirmed by matching stratigraphy. Consequently Thondhlana's dates from Midden 1 (Fig. 5.14) are directly relevant to the material recovered from the 2012 excavations. In addition, two further charcoal samples were submitted for radiometric dating by Beta-Analytic. Sample Beta-333840, 920 ± 30 b.p, confirms that the Burrow Pit ash midden dates to the Kgopolwe occupation period of the site. The second sample, Beta-333841, 1070 ± 30 b.p., from the ash midden underneath the hut floor, extends the occupation of the Kgopolwe phase of the site back to the 10th century. When combined with the early dates from Midden 1, level 7, these dates confirm the significant occupation of the northern and western parts of Shankare had started by AD 1000 (Table 5.1 and Fig. 5.14) and that the Kgopolwe phase extended towards the end of the 13th century. Given the recovery of items indicative of a potentially 18th- or 19th-century date from the terraced midden excavations, it was considered prudent not to submit any samples from these areas for dating.

Table 5.2 Calibrated radiocarbon dates from Shankare.⁹

Name	Provincance	age b.p.	2 sigma calibration (AD)	
			From	To
R_Date SHAM1L3 (Beta-306714)	Midden 1 ash deposit	830 +/- 30	1204	1284
R_Date SHAM1L6 (Beta-306715)	Midden 1 ash deposit	840 +/- 30	1189	1279
R_Date SHAM1L7 (Beta-306716)	Midden 1 ash deposit	1010 +/- 30	1021	1152
R_Date SHAM1BP (Beta - 333840)	Burrow Pit midden ash deposit	920 +/- 30	1046	1226
R_Date SHAM1HF (Beta - 333841)	Hut floor midden ash deposit	1070 +/- 30	909	1138
R_Date SHA2M1 (Pta-4443)	Copper working remains	890 +/- 50	1046	1278

⁹ The radiocarbon dates from Shankare were calibrated using OxCal v4.2.4 (Bronk Ramsey 2013) using the southern hemisphere atmospheric curve (Hogg et al. 2013).

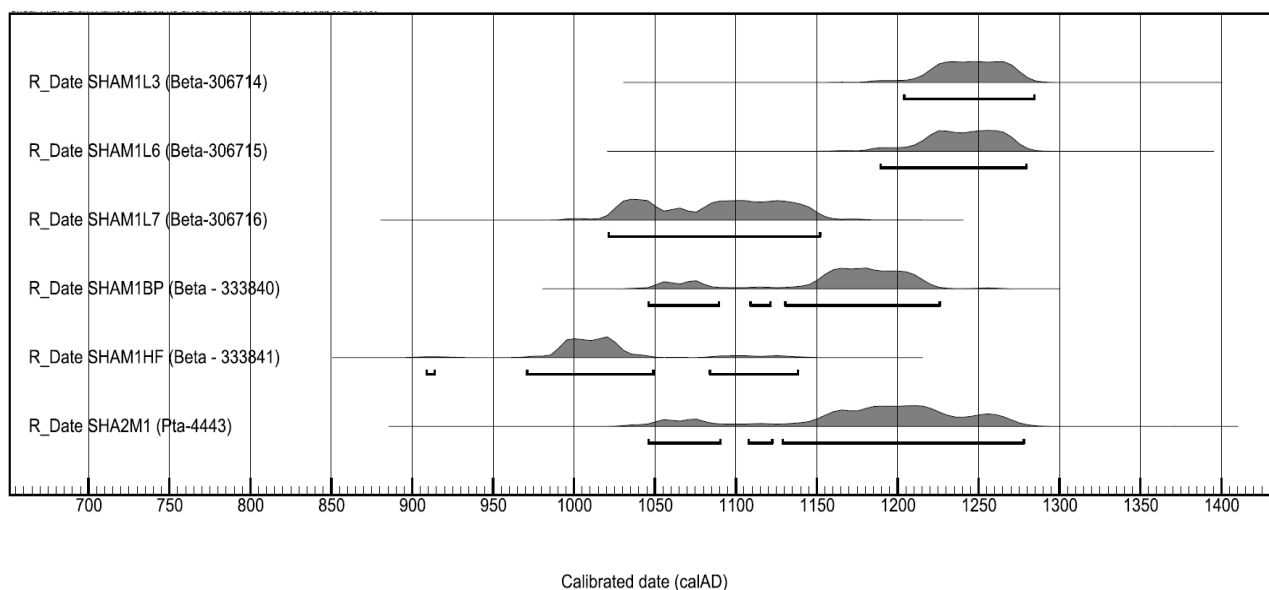


Figure 5.14 Selected radiocarbon dates from Shankare. Generated by OxCal v4.2.4 (Bronk Ramsey 2013) using the southern hemisphere atmospheric curve (Hogg et al. 2013).

5.5 Discussion and conclusion

A combination of surveys, larger excavations of middens, features and test pits, targeted different areas of the site. These revealed the occupation of large parts of the north facing terraced slopes and an extensive occupation on the flat areas immediately north of Shankare hill. These two zones of domestic occupation represent quite different approaches to settlement and the radiocarbon dates show that the occupation around the northern base of Shankare hill falls between the 10th and 13th centuries (the Kgopolwe facies). Excavations of two ash deposits on terraced areas on the northern slopes of Shankare Hill revealed the presence of domestic debris intermixed with small amounts of metallurgical debris. The accumulation of ash debris on these terraces appears to derive from a single and or temporally short occupation. Distinctive glass beads , ceramics and other temporal markers indicate a later occupation that dates within the 18th and 19th centuries and can be ascribed to the Letaba facies.

The density of deposit across the northern flat area of Shankare, from Midden 1 to Test Pit 4, appears to be relatively similar, with excavated deposits averaging 70cm in depth across this

section of the site. In contrast, the midden excavations associated with the Burrow Pit and Hut Floor midden exposed shallower and less extensive deposits, possibly accumulated over a shorter period of time and from smaller scale domestic contexts. This contrast may indicate that Midden 1 and its adjacent areas represent a more central area of the settlement, in which debris accumulated more quickly. Such patterns are common in Iron Age settlements (Maggs 1994; Calabrese 2007; Huffman 2007). However, it may also indicate an intensification of occupation in this area of the site from the 12th century.

The Kgopolwe deposits from the ash midden underlying the Hut Floor, the Burrow Pit midden, Midden 1 and the Test Pits conformed to midden material, with faunal remains, ceramics and metallurgical debris intermixed without clear stratigraphic separation that may have implications for the spatiality of activities. However, variability in the densities of material recovered from some of these deposits are noted. Variance was particularly clear in the case of Test Pit 1, which revealed a higher density of metallurgical debris not seen in other excavation areas (see Chapter 7). Although metal working debris was recovered from all excavation contexts, the variability in the distribution and deposition of these remains is further explored in chapter 7.

One potential anomaly revealed by the fieldwork related to the absence of cattle at the site. Cattle, and cattle-keeping, is considered central to the social and economic lifeways of Iron Age communities (see for example Huffman 1982, 1990, 2007). However, no evidence of cattle enclosures, or of vitrified dung, was recovered from any excavated context.

The deposit across the northern base of Shankare Hill conforms to a domestic, permanent settlement, both in the accumulation of midden deposits with domestic debris typical of Iron Age habitation sites, and the presence of prepared floors in excavation and surface contexts (Maggs 1994/5; Huffman 2007). Grinding stones, dolly holes and grooved surfaces further indicate different activities taking place across the site, from the processing of ore to the preparation of grain. The accumulation of ash middens both stratigraphically above and below prepared floors, evident in Midden 1 and the Hut Floor excavation area adjacent to the hill, indicates that activity areas and use of space may have shifted across the site through time. However, the radiocarbon sequence for this occupation (Fig. 5.14), and the overlapping dates between excavation areas across the northern flats of Shankare Hill, suggests that this earlier Kgopolwe occupation was relatively continuous over 250 years but that there was spatial reorganisation and homestead remodelling

through time. This is characteristic of Early Iron Age settlement, and homesteads were shifted within the same area in relatively continuous occupations over extended periods (see for example Whitelaw 1993, 1994).

Despite the seeming absence of cattle enclosures, granaries such as that potentially uncovered in Midden 1 are typically found in residential zones of Iron Age settlements (Huffman 1982; 1987; Whitelaw 1993) and clearly indicate cereal production over extended occupations. Furthermore, burials such as those recovered from Midden 1, and the deliberate ritual burial of the pot, reflect a continuity in cultural practice with other Iron Age communities. Indeed, burials in ash middens are a typical feature of domestic occupations of this time period (Maggs 1994). While the deliberate burial of an inverted complete pot in Midden 1, and its subsequent breakage through the base, may articulate a range of specific meanings, it nevertheless indicates some degree of shared practice with other Early–Late Iron Age communities (Maggs 1980; Whitelaw 1993). Above all, these practices indicate a full range of domestic, social and ritual routines that underpin the fullness of homestead life.

The Kgopolwe occupation phase at Shankare, from the 10th to the 13th centuries, coincides with regional developments further north. These, as discussed in chapter 2, relate to the development of the southern African complex state system referred to as the ‘Zimbabwe culture’. In particular the occupation of Shankare overlaps with the occupation of sites such as K2, Mapungubwe, Mapela and the early phases of Great Zimbabwe. This correlation, and the nature of the relationship between Shankare and changes visible on this wider landscape, must be critically explored. The following chapter focuses on the ceramics recovered from Shankare and their potential to situate Shankare within regional interaction and connections.

Chapter Six:

Identifying style, identity and regional interaction through ceramic analyses

“So symbols are not arbitrary, and symbolic systems- concepts and cosmologies, for example, that bring together multiple symbols- are not arbitrary either. Both are clearly motivated, to some degree, by the world that symbol-making humans inhabit, and by their engagement with that world.” (Boivin 2008: 64)

6.1 Introduction to chapter

In archaeology, ceramic analyses provide a widely utilised avenue for the study of identity construction, population movement, and interaction at various scales. Approaches to ceramic analyses have been dominated by particular theoretical and methodological considerations that, although varying, share an overt focus on identifying, documenting and analysing spatially and chronologically distinct expressions of style. Style resides in functional, social, and symbolic dimensions, and the identification and distribution of style have been interpreted to reflect a wide range of social and political processes, such as group affiliation, communities of practice, ethnicity, interaction and technological choice (Lechtman 1975; Sackett 1977; Wobst 1977; Hodder 1982; Wiessner 1984; Lemonnier 1990; MacEachern 1998; Gosselain 2000).

On the basis of previous research in Phalaborwa, two distinct ceramic styles, Kgopolwe and Letaba, have been associated with the early and late occupation periods respectively (Evers and van der Merwe 1987; Miller et al. 2001). The purpose of this study of excavated ceramics from Shankare is, firstly, to identify their relatedness to the established ceramic sequence and, secondly, and perhaps more importantly, to interrogate these stylistic units in relation to the historical processes they may represent. Particular questions relate to intra-site stylistic variability, the definition, limits and relations of ceramic styles from Phalaborwa with regionally identified styles, and the relation between ceramic style and the identity of crafters in Phalaborwa through time. These questions are

of particular importance in considering the expression of style in the context of regional interaction and the political economy.

6.2 Ceramic theory and methodology

Typological approaches are one of the key techniques in material analysis, and provide a fundamental tool for characterising and subdividing the range of variation in material culture in the archaeological record (Adams and Adams 1991). Ceramic typology in southern Africa, variously aimed at identifying spatially and chronologically distinct expressions of style, is a well-established and widely utilised methodology. Ceramic typologies are used variously to create culture–history sequences, model movement on the landscape, define archaeological identities and interrogate interaction (Schofield 1948; Robinson 1961; Phillipson 1977; Evers 1988; Huffman 1980; 1982, 2007; Pikirayi 2007; Hall 2012).

Ceramic style as an expression of group identity (Evers 1988; Huffman 1980, 1982, 2007; Loubser 1991) has been a dominant theoretical focus in southern African ceramic analyses. The theoretical basis for one strand of this approach, termed a “cognitive approach” to material culture, situates material culture within a system of meaning as expressed through a code of “cultural symbols” (Huffman 1980, 1982; Evers 1988). Evers’s (1988) ethnographic study of the material culture of Gwembe, Tonga, Pedi and Zulu groups documented the overlap in design motifs in pottery, basketry, homes, drums and other material culture, which was part of a larger design field and formed a style that was culturally distinctive. Evers’s study, which focused predominantly on motifs, found that ceramics were the best representatives of the variability of motifs found in one stylistic group, and thus best fulfilled the requirements for establishing cultural-history sequences.

Evers (1988) and Huffman (1980, 1982) interpret style as a system of meaning that communicates social values within the communities in which they are used. Huffman further interprets the distribution of ceramic styles in the Southern African Iron Age as a representation of ethnicity (Huffman 1982, 2007: 108). The interpretation of ceramic stylistic units as representing bounded social groups, and particularly the assertion of style as representative of ethnicity, has been variously critiqued (Hall 1984, 1987; Lane 1994/5; Schoeman 1997; Pikirayi 2007). Other studies

have addressed style in terms of the political dimensions of identity construction, recognising that the fluid, changing context of identity may impact on the representation of style by ceramic makers and users (Hall 2012). Such observations indicate that ceramic style may relate to different scales of identity and interaction in the past (*sensu* Hodder 1982).

A number of methods have been used in southern African typological studies of ceramics, emphasising various stylistic attributes in different combinations and permutations (Phillipson 1974; Maggs 1976, 1984). The most widely used methodology remains the multi-variant analysis (MVA) developed by Huffman (1980, 1982, 2007). Huffman (1980, 2007) argued that the combination of three variables—vessel profile, decoration and decoration placement—captures the most salient attribute of the vessel, reflecting the characteristics of the vessel that make it unique. The combination of these three variables is used to form distinct vessel classes. The basic ceramic group is the facies, a cluster of vessel classes in space and time that have the same style system (Huffman 1980). The frequency of types may vary within a facies based on a potter's preferences, and within a facies some transitional features may also occur. One can assess the similarity between facies through correlation scores, which are explored below (Huffman 1980).

Methodologically, Huffman's method has been very useful in providing a system of classification that condenses the information available in Iron Age ceramics into usable and comparable styles. However, methodological issues remain. Firstly, the MVA works only with complete vessels, of which there is often a shortage of from archaeological assemblages, particularly when it comes from midden deposits. Secondly, the method favours highly decorated assemblages. As with any method that requires interpretation, there is also a degree of inter-researcher variation with regard to defining profiles, decoration position, and layout modes, particularly when working with incomplete vessels. As such, the method is as subjective as any other typological classification approach (Hall 1983).

Technological style and its relation to decoration style remains an underexplored area of ceramic studies in southern Africa (although see Ndoro 1996; Pikirayi 2007; Wilmsen et al. 2009). Salient attributes, such as temper, method of manufacture, and clay choices, may have been particularly important in the creation and use of the vessel. These attributes also provide useful additional information about ceramic collections that are predominantly undecorated, and can aid in analyses in which greater detail is needed to define the variation within or between ceramic assemblages.

Nevertheless, the use of the MVA facilitates the generation of a data set that can be used comparatively with previously studied ceramic assemblages, and as a result remains widely utilised in southern African archaeology.

6.3 Shankare ceramics: methodology

The fieldwork sampling procedures for ceramics were limited to diagnostic¹⁰ ceramics that were sorted in the field, with due care taken to attempt *in situ* refitting of pots. In the field, ceramics were preliminarily sorted into diagnostic sherds. 920 diagnostic sherds were analysed from Shankare, from excavated contexts across the site (Fig. 6.1). Once in the laboratory, sherds were cleaned and labelled with the relevant provenience, following standard procedures. Analysis focused on identifying and studying vessels rather than on individual sherds, so as to utilise the MVA method (Huffman 1980), and vessels were identified using both rim and body decorations, with considerable effort made to refit sherds across the levels and squares. After refitting, 313 decorated vessels and 191 undecorated vessels were identified. Each identified vessel¹¹ was recorded, described and entered into a database.

While there is clearly a dialectical relationship between existing defined typological categories (such as those identified by Evers and van der Merwe 1981) and the creation of new ones, the approach taken in this analysis was to identify classes within the assemblage based on the intra-assemblage stylistic variation. Once classes for the Shankare assemblage were established, inter-site comparisons across excavation units, as well as inter-site regional comparisons, were employed.

¹⁰ Diagnostic sherds refer to those sherds in which the profile and/or motifs is/are visible. Undecorated sherds with a visible profile are considered diagnostic.

¹¹ A ceramic sherd that is clearly unique in terms of decoration, profile, thickness, and colour is categorised as representing an individual vessel.

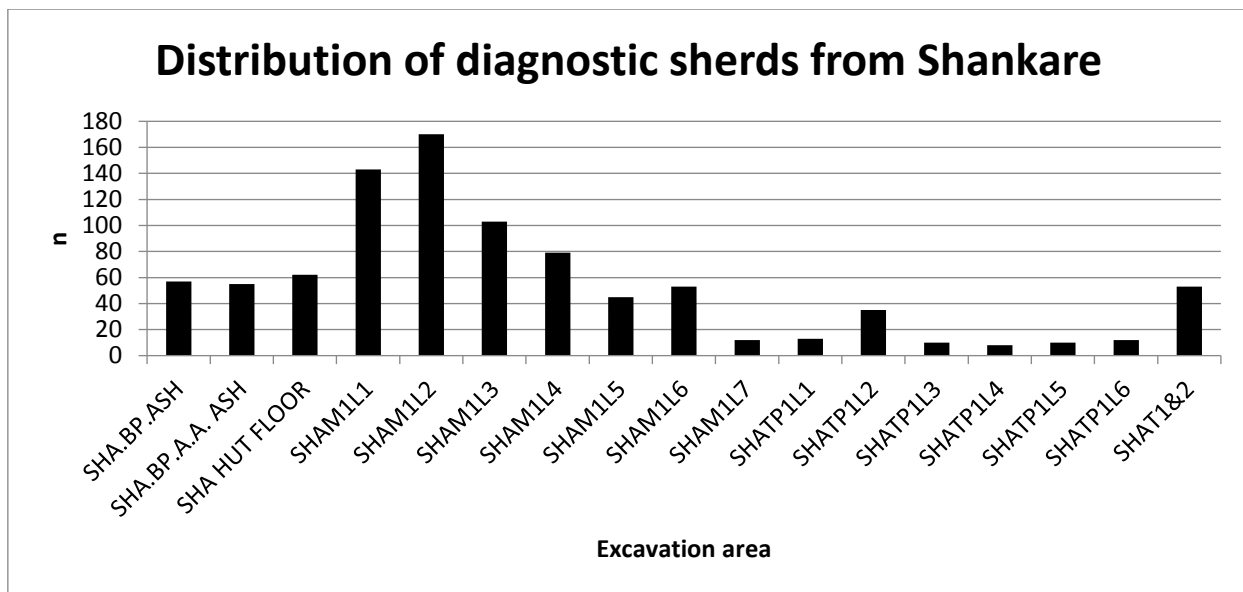


Figure 6.1 The distribution of diagnostic ceramic sherds across excavation units at Shankare.

6.4 Typological criteria

Vessels were defined using three variables: profile, decoration placement (layout), and decoration (motifs). Where possible, these variables were combined to define classes.

6.4.1 Profiles

Four main vessel profiles were identified within the Shankare assemblage (Table 6.1 and Fig. 6.2). Within each profile type, a number of subdivisions exist.

Table 6.1 Vessel profiles from Shankare.

Profile 1: Necked jar	A necked jar. Within this, three subdivisions exist.
Profile 1A	A recurved jar. This profile category is a short-necked jar, with a significant curvature between rim and shoulder.
Profile 1B	A necked jar with a strong carination.
Profile 1C	A long-necked jar with a shoulder. This is referred to by Evers and van der Merwe as a necked jar (1987:94).
Profile 2: Short necked spherical pot	This profile has a globular body shape with an everted lip. Rim profiles are generally everted, though some may be vertical. This profile correlates with Evers and van der Merwe's (1987) spherical jars.
Profile 3: Globular pot	This profile has no neck, although it may have a slightly everted rim, and is typical of Letaba (Huffman 2007: 266) profiles. Both profiles 2 and 3 would have fitted with Evers and van der Merwe's spherical jars, and Loubser's (1991) spherical profiles.
Profile 4: Open bowls	This profile is characterised by a mouth diameter wider than the height of the vessel. This profile corresponds with Evers and van der Merwe's (1987) "open to nearly hemispherical" bowl. Within this category, bowls were further subdivided by rim profile:
4A	Straight lip
4B	Wide lip with a curve on the inside
4C	Wide lip protruding on the outside
4D	Rounded lip
4E	Lip with interior bevel
Profile 5: Necked/carinated bowl	This profile resembles an open bowl in body but with a distinct short recurving neck. This profile was not identified by Evers and van der Merwe (1987), but corresponds with Calabrese's necked bowl (2007), and Loubser's (1991) carinated profile.

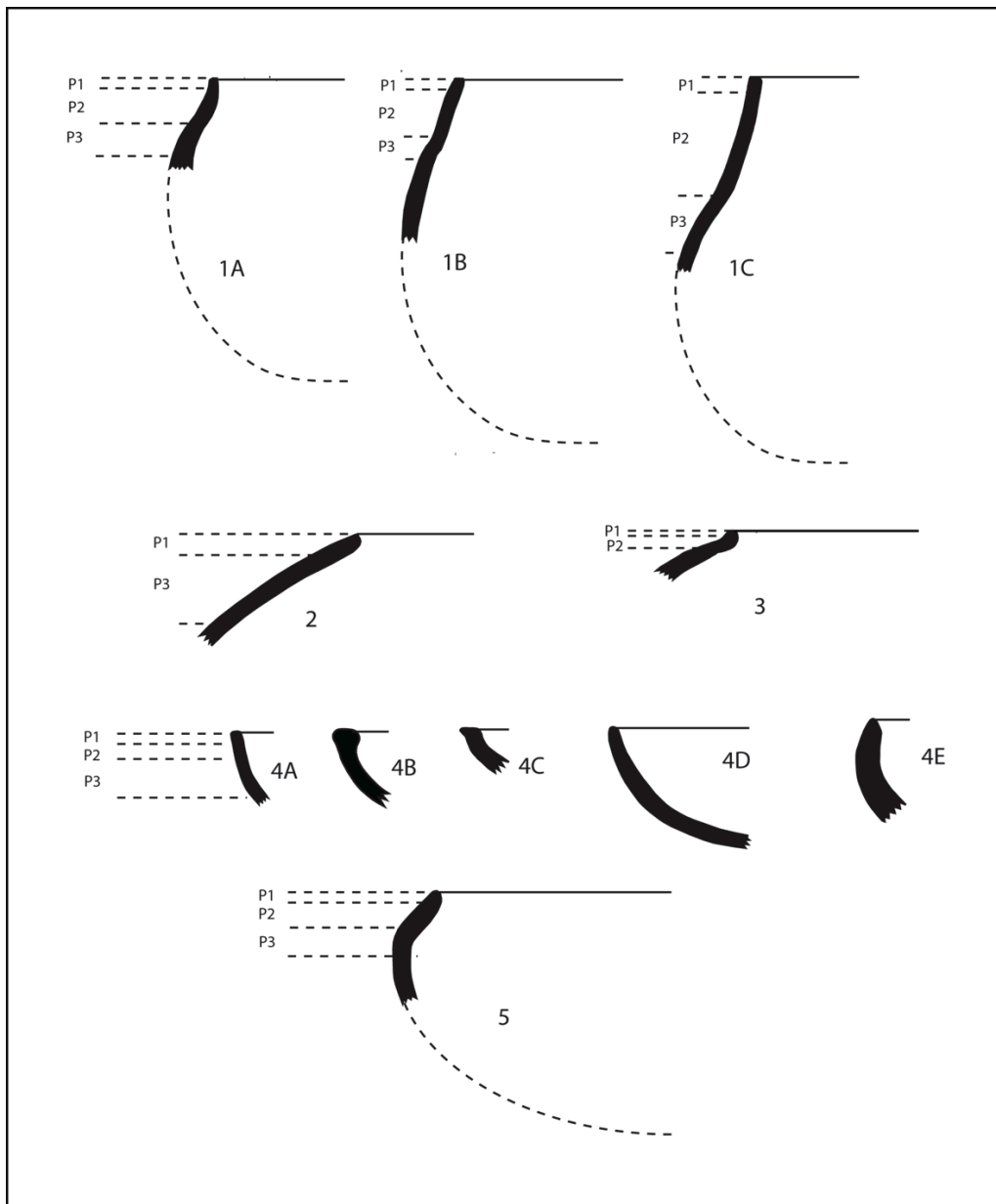


Figure 6.2 Vessel profiles and decoration placements for Shankare ceramics. Note the designation of position 1, 2 and 3.

Distribution of vessel profiles

The distribution of vessel profiles across the excavations at Shankare was recorded (Table 6.2). Included in the table are vessels that were not characterised as full profiles; however, there is enough of the profile to assign it to a profile category. Of interest is the difference in profiles between the two excavated terrace samples and the other sampled areas from Shankare. Profile 1C, the long-necked jar, is the dominant profile across the site, with the exception of the terraces, where they occur in small quantities. Beyond the distinction in the jar profiles, the analysis did not highlight any significant differences between the excavations and within excavation levels.

Table 6.2 The Distribution of vessel profiles from Shankare.

PROFILES	1	1A	1B	1C	2	3	4	4A	4B	4C	4D	4E	5
SHABP_below	7	1	1	10				4					
SHABP_above	6			1				11	1	1			
Hutfloor (floor)	1				1								
L1				2				4		1		1	
L2				1				2					
L3&4	5		1	4				1					
SHAM1,L1	3			10	2		1	12	1	2	1	3	1
L2	16		5	7			2	5	1		1	1	2
L3	15			7	1			3			1		1
L4	9		1	8				1				1	
L5	2			4			1	1			1	1	
L6	5	1		5			1					1	
L7	3			1			1				2		
SHATP1,L1				2				2		1		1	
L2	4			1									
L3	3			1							1		1
L4	1			1									
L5	2			1				2					
L6	1			1									
SHAT1	2				3	5							
SHAT2				1		7							
Total	85	2	8	68	7	9	6	48	3	5	7	9	5

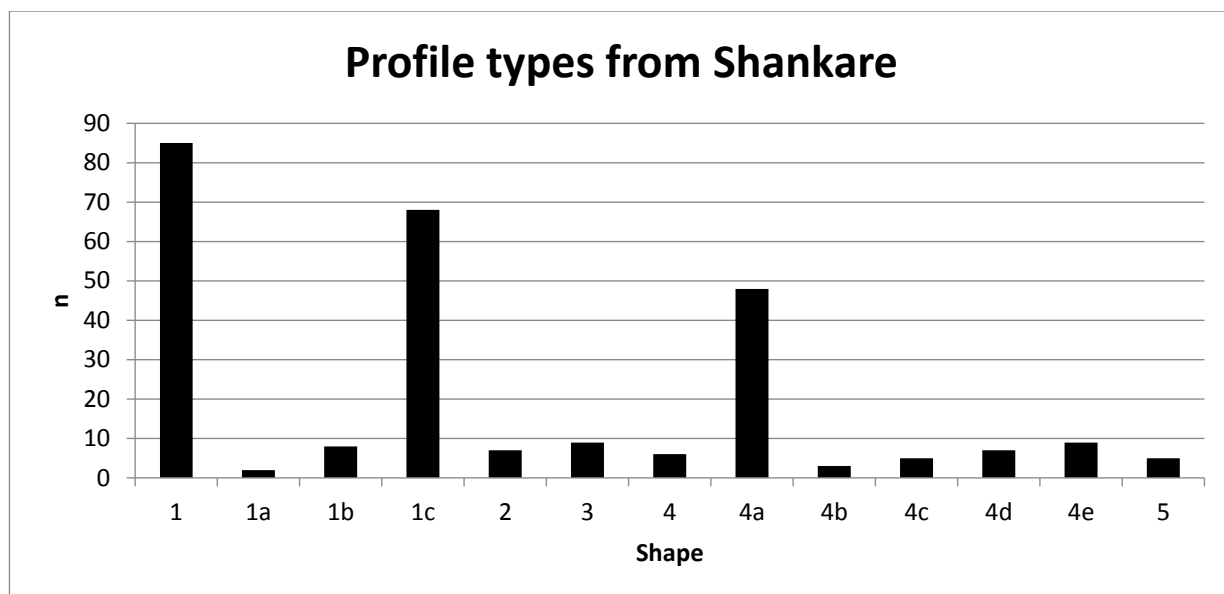


Figure 6.3 Decorated vessel profiles from Shankare.

From the above graph (Fig. 6.3), there is clearly a dominance of long-necked jars from Shankare, and more jars than bowls recovered from the site.

Undecorated vessels from Shankare

A total of 191 undecorated vessels from Shankare were assigned to profile classes (Fig. 6.4). While these vessels were incomplete, and may have been decorated on the absent areas of the vessel, care was taken in attempting to refit these with decorated sherds and also in differentiating them based on rim shape and thickness. 25 undecorated vessels were complete profiles: 21 bowls and 2 jars (Profile type 1C) and 2 pots (Profile type 2). In the bowls, 13 had profile 4D, 7 had 4A, and 1 had 4E.

Bowls with rounded lips (4D) were typically roughly made and did not have a high burnish. Of the two undecorated jars, both were long-necked jars with no decoration evident on the shoulder.

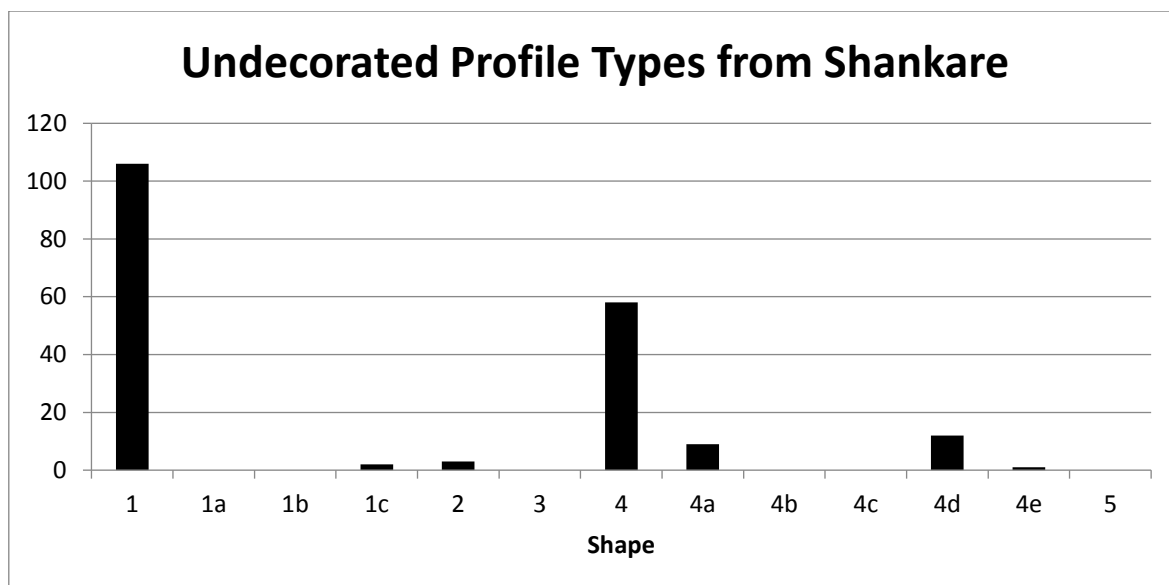


Figure 6.4 Undecorated vessel profiles from Shankare.

6.4.2 Decoration placement

Vessels were also analysed according to their decoration placement (see Fig. 6.2), which relates to the parts of the vessel profile decorated and is divided into positions. Only three positions were identified in this assemblage (1, 2 and 3) and six combinations were identified.

A: Position 1 (rim)	B: Position 2 (neck)
C: position 3 (shoulder)	D: position 1 and 2 (rim and neck)
E: Position 2 and 3 (neck and shoulder)	F: position 1 and 3 (rim and shoulder)

6.4.3 Decoration motifs

A range of decoration techniques was identified (Fig. 6.5). The most common technique was the use of incision to create various patterns (e.g. Position 1, 1ii–1vi). Impressions (e.g. Position 1, 1i, 3iii) were also used. A rare form of decoration technique, Position 2 8v, appears to have been created using fingernail impressions. A number of vessels were also ochre and graphite burnished on large surface areas. This feature was not included in decoration-motif characterisation unless it formed a distinct band along the rim (Position 1, 2i).

Decoration motifs were organised in terms of position (positions 1, 2 and 3). They were then grouped into categories based on the similarity of the motif (i.e. crosshatching) as well as the design (i.e. a single band).




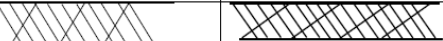






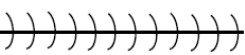
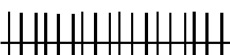
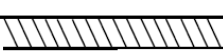
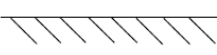






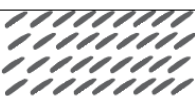
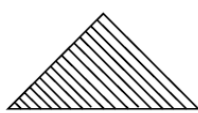
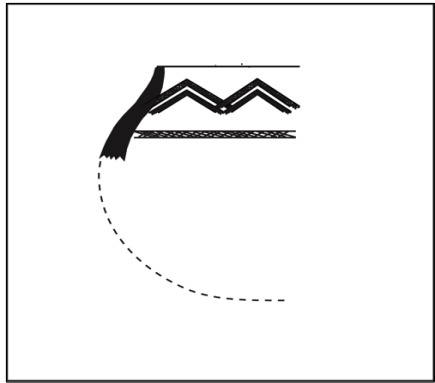
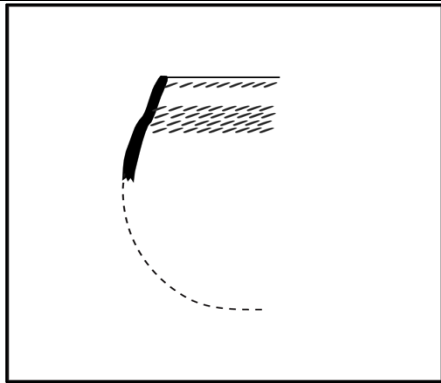
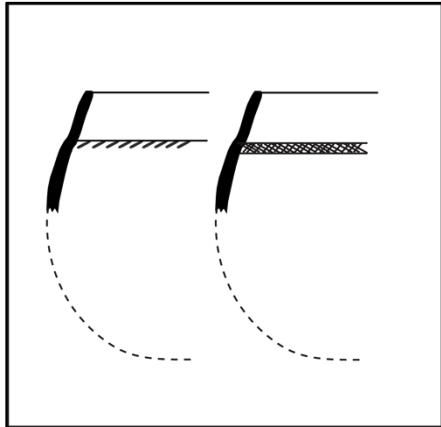
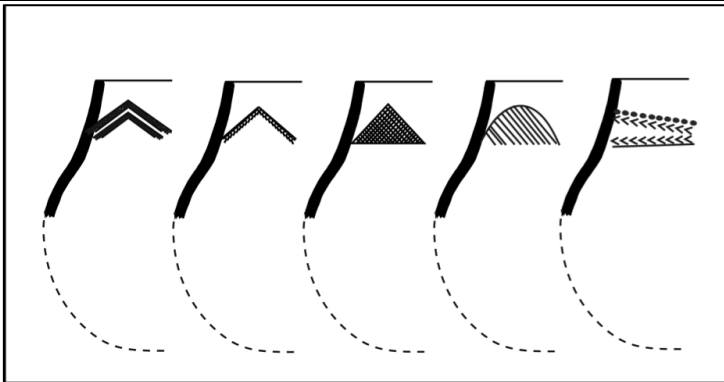
Position 3 decoration motifs				
1i				
				
1ii				
				
1iii				
1iv				
1v				
2				
3				

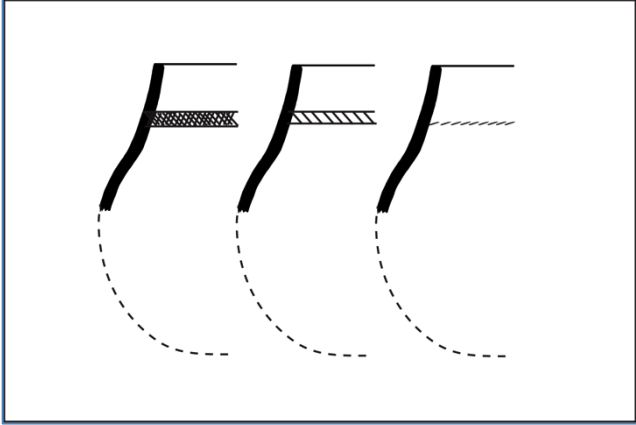
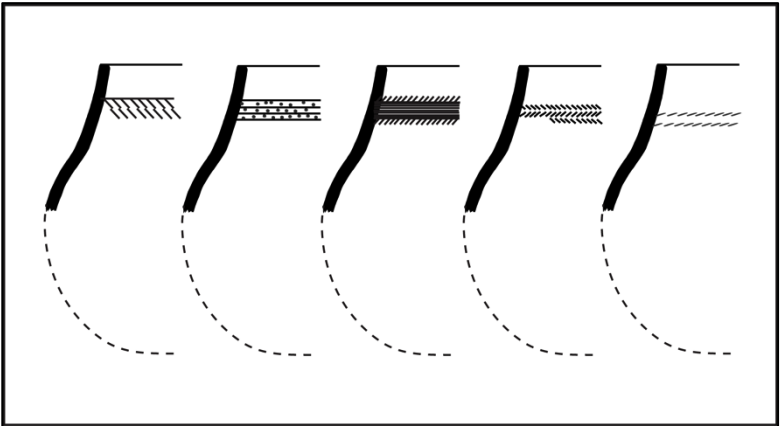
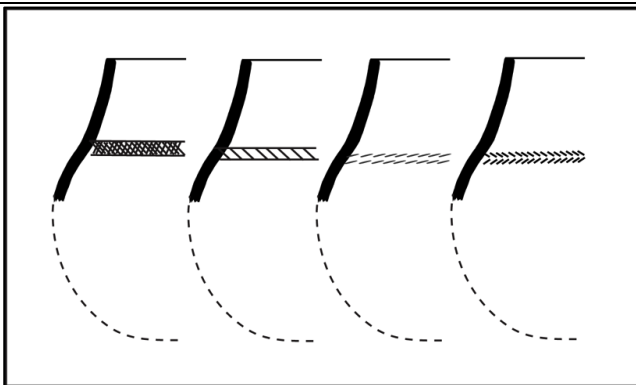
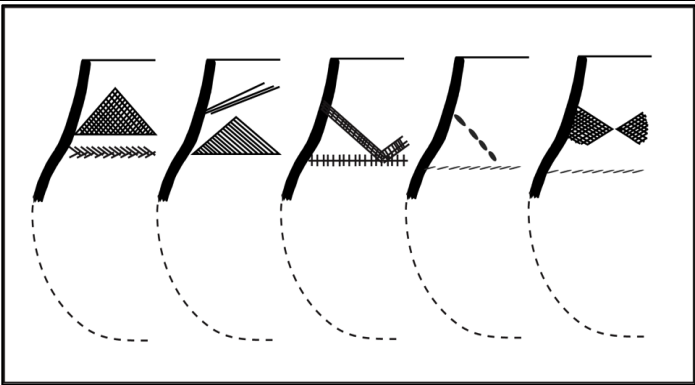
Figure 6.5 Motifs found on ceramic vessels from Shankare. Red and black colours represent ochre and graphite burnishing respectively.

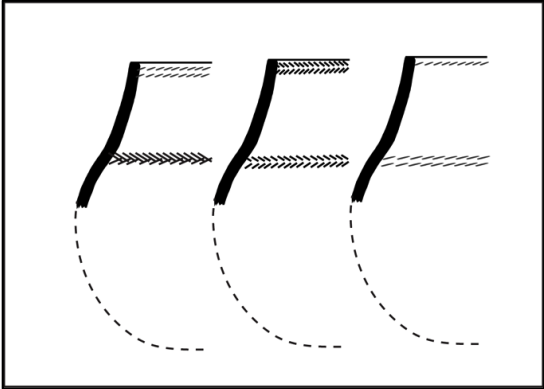
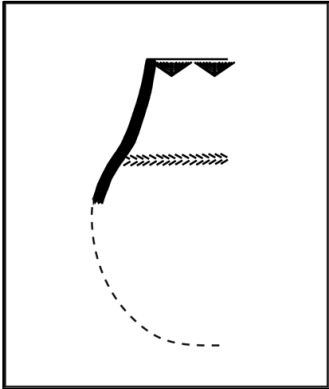
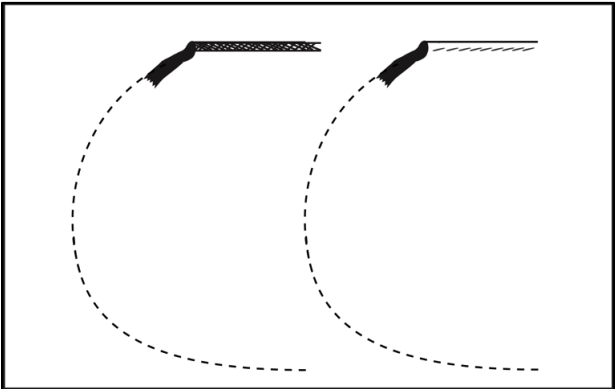
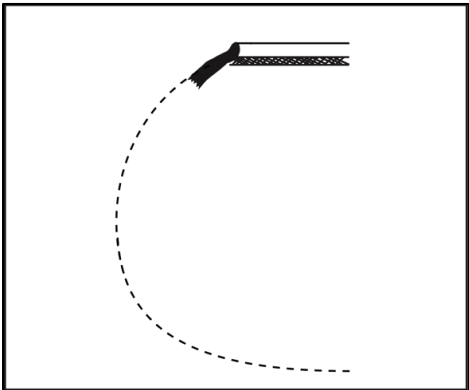
6.5 Creation of classes

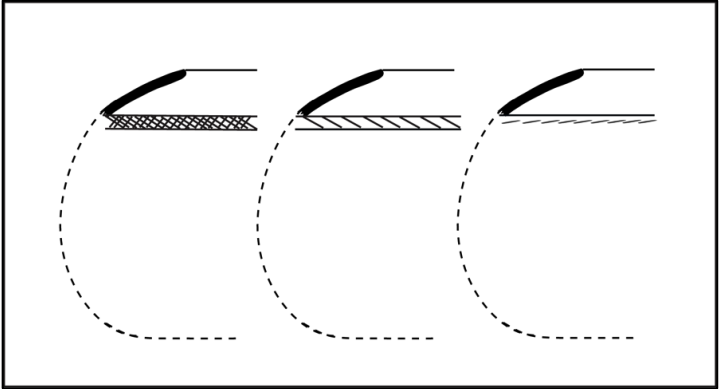
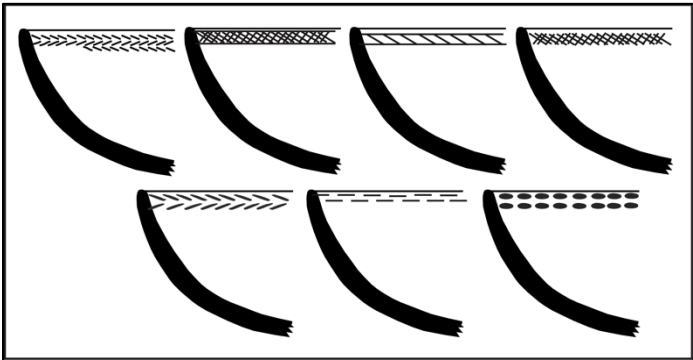
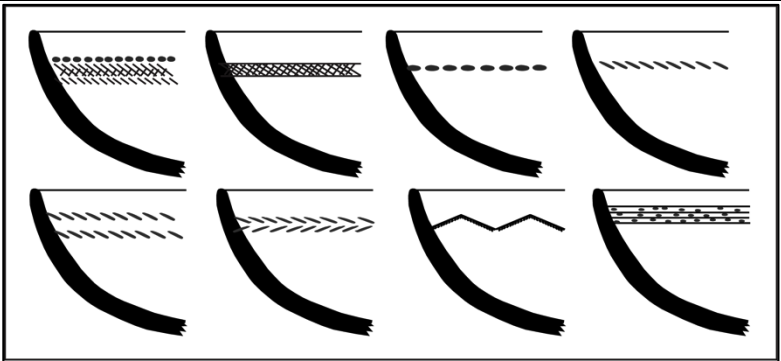
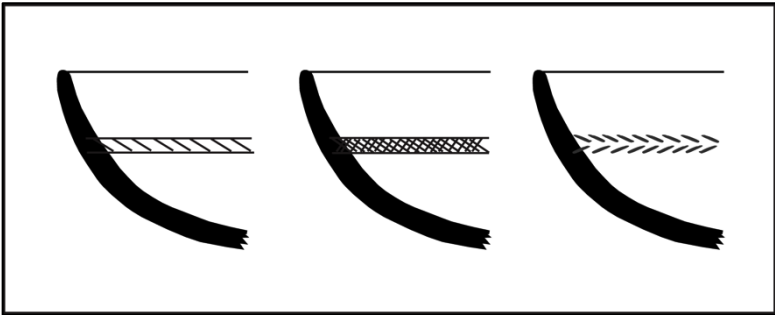
Of the total Shankare excavated vessels analysed, 43 decorated vessels were securely distinguished with full profiles and decoration placements (Table 6.4). These were then analysed and placed into classes, based on a combination of the three major variables: profile, layout, and motif. In doing so, 14 major classes were identified. Once this process was completed, incomplete vessels were assigned to possible classes. From this, three further “classes” emerged. Although they were not based on full profiles, it was recognised that they represent a variability not found in the other classes. In particular, this principle applied to profile type “2”, a short-necked globular pot. Although no full profile was found, enough samples (8) were found to suggest this was a significant profile. A further 173 vessels could be securely assigned into classes, leaving the total ceramic vessels assigned to classes as 216 (Table 6.5).

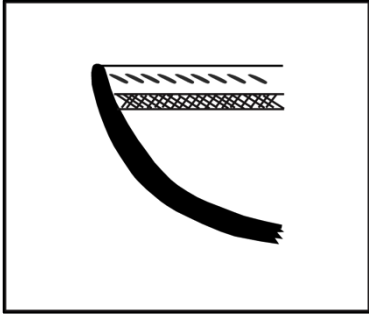
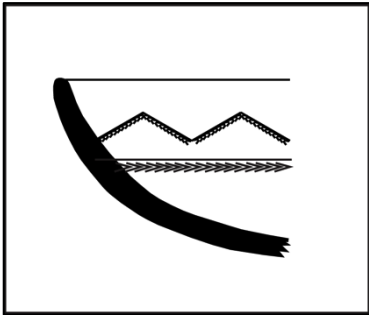
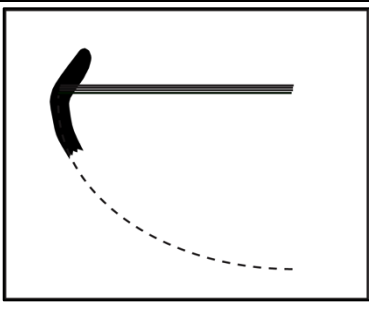
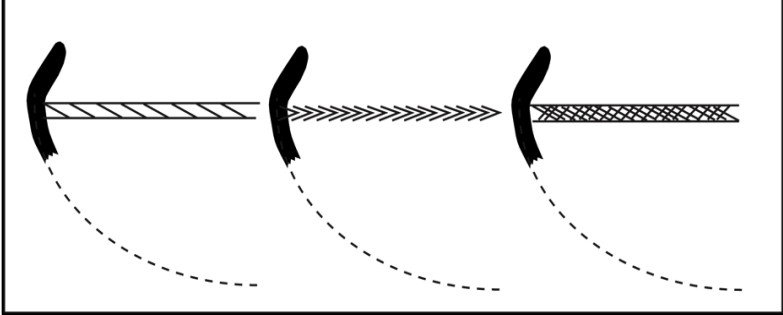
Table 6.4 Types of classes identified from Shankare.

Class 1: A recurved jar with a neck shoulder layout.	Profile: 1A Placement Motifs: Position 2: 1i Position 3: 1i	
Class2: A necked jar with a strong carination, with a rim shoulder layout.	Profile: 1B Placement: F Motifs: Position 1: 1i Position 3: 2i	
Class 3: A necked jar with a strong carination, with a shoulder layout	Profile: 1B Placement: C Motifs: 1i, 1v	
Class 4A: A long-necked jar decorated on the neck with triangles/chevrons	Profile: 1C Placement: B Motifs: 1i,2i,3i,6i	

<p>Class 4B: A long-necked jar decorated on the neck with a single band</p>	<p>Profile: 1C Placement: B Motifs: 7i, 7ii, 7v</p>	
<p>Class 4C: A long-necked jar decorated on the neck with double/multiple bands</p>	<p>Profile: 1C Placement: B Motifs: 8i, 8iii, 8iv, 8v, 8viii, 8xiv</p>	
<p>Class 5: A long-necked jar decorated on the shoulder</p>	<p>Profile: 1C Placement: C Motifs: 1i, 1ii, 1iii, 1iv, 1v, 2i</p>	
<p>Class 6: A long-necked jar decorated on the neck and shoulder</p>	<p>Profile: 1C Placement: E Motif: Position 2: 1i, 2i, 6i Position 3: 1ii, 1iii, 1iv, 1v, 3i</p>	

Class 7A: A necked jar with a single band on the rim and shoulder	Profile: 1C Placement: F Motifs: Position 1: 3i Position 3: 2i	
Class 7B: A necked jar with a triangle on the rim and single band on the shoulder	Profile: 1C Placement: F Motif: Position 1: 4i Position 3: 1i	
Class 8: A short-necked spherical pot with decoration on the rim	Profile: 2 Placement: A Motif: 1i, 1iii	
Class 9: A short-necked spherical pot with decoration on the neck	Profile: 2 Placement: B Motif: 7ii	

Class 10: A spherical pot with decoration on the shoulder	Profile: 3 Placement: C Motifs: 1i, 1iv, 1v	
Class 11: An open bowl with a band of decoration on the rim	Profile: 4A Placement: A Motifs: 1i, 1ii, 1iii, 1iv, 1v, 3ii, 3iii	
Class 12: An open bowl with a band of decoration below the rim	Profile: 4A Placement: B Motifs: 3i, 7ii, 7iv, 7v	
Class 13: An open bowl with a band of decoration mid-way down the bowl	Profile: 4A Placement: C Motifs: 1i, 1ii, 1iv	

Class 14: An open bowl with two bands of decoration below the rim	Profile: 4A Placement: D Motifs: Position 1: 1v Position 2: 7iii	
Class 15: An open bowl with decoration below the rim of the bowl and on the body	Profile: 4A Placement: E Motifs: Position 2: 1i Position 3: 1ii	
Class 16: A carinated bowl decorated on the neck	Profile: 5 Position: B Motifs: 8ii	
Class 17: A carinated bowl decorated on the shoulder	Profile: 5 Position: C Motif: 1i, 1ii, 1iv	

6.6 Intra-site comparisons: towards the identity of Shankare's occupants

6.6.1 Letaba ceramics: terrace excavations

A total of 31 vessels were identified from the terrace excavations, but due to the fragmented sample only 11 could be assigned to classes. Profiles are dominated by short-necked spherical pots and spherical pots. A single band of decoration on the neck or shoulder for both profiles (Fig. 6.6) is a dominant decoration layout. Predominant motifs are impressions with a single incised line (Position 3:1v), a single cross-hatching band (Position 2:7i, Position 3:1i), parallel lines of incisions (Position 3:1iv), and a single band of oblique impressions (Position 3:1v). Pots and bowls were often graphite-burnished. The classes identified from terrace excavations (Table 6.5) are class 9 and 10. With the exception of one vessel from Midden 1, these classes are not recovered from other areas of the site, and further differentiate the terrace assemblage. The terrace sample can be assigned to the Letaba facies.

Further qualitative observations relate to the manufacture and temper of the pottery from the terraced areas. Pots were thin-walled in comparison to ceramics from other areas of the site, and the ceramic fabric was friable and low-fired. Ceramics were tempered with large quartz inclusions. Decoration techniques, mostly limited to incisions, were applied roughly (Fig. 6.6).

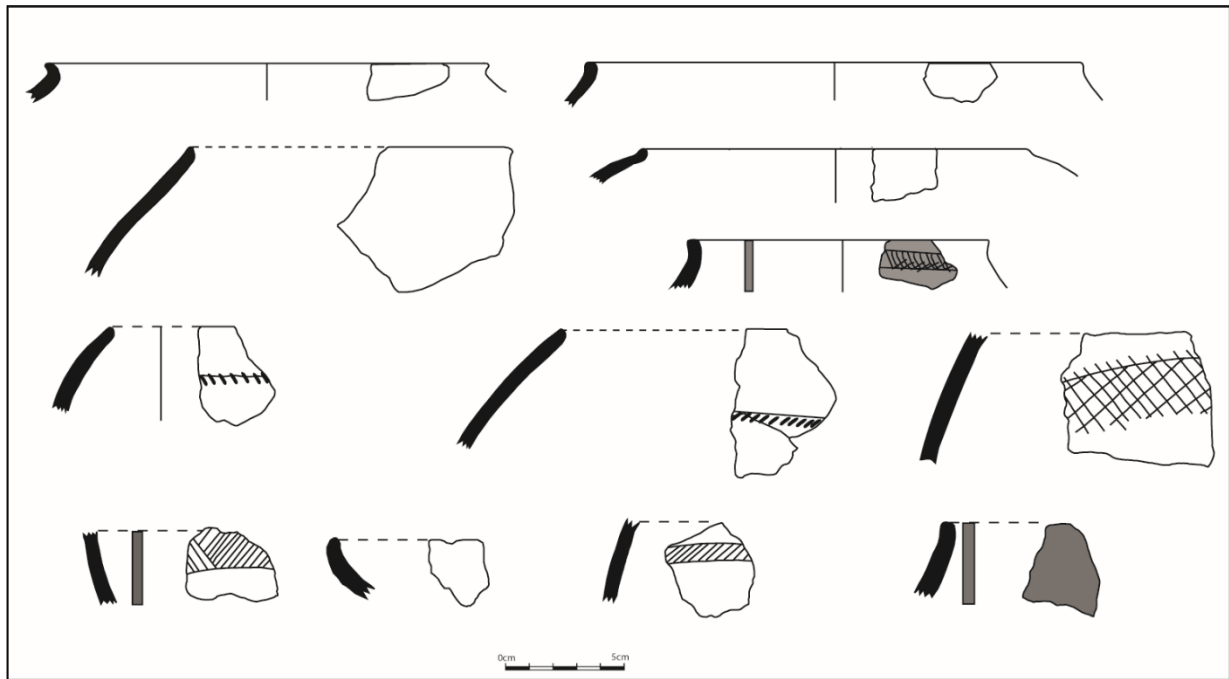


Figure 6.6 Selected ceramics from terrace excavations.

6.6.2 Kgopolwe assemblages at Shankare: Midden 1, Burrow Pit, Hut Floor and Test Pit 1

Shankare Midden 1

A total of 188 vessels were identified from Shankare Midden 1, of which 124 can be assigned to classes. The dominant classes in the assemblage was Class 4 (58%), long-necked jars decorated on the neck and shoulder, followed by Class 10 (17%), open bowls decorated with cross-hatched bands on the rim and body.

Ceramics from Midden 1 fall within the variation expected from Evers and van der Merwe's (1987) study of the Kgopolwe facies. Open bowls were dominated by single bands of impressions, herringbone incisions or crosshatching on the rim or body of the bowl (Position 1: 1i, 1ii, 1iii, Position 3: 1ii, 1iv). Long-necked jars were decorated with triangular motifs on the neck (Position 2: 2i, 6i), incisions (8i, 8ii) and single bands on the shoulder (Position 3: 1i, 1ii, 1iv, 1v). Single bands on the rim (Position 1: 1i, 1ii, 1iii) were often found on jars in combination with decoration in position

3 (Class 6) (Fig. 6.7). Herringbone and crosshatching are the dominant styles used to fill bands and triangles. Four carinated bowls were identified in Midden 1 (Fig. 6.8).

While the variability in classes across excavation contexts does not vary significantly (Table 6.5), there is some indication that motifs vary across the lower and upper levels of Midden 1. There is a relatively stronger dominance of single bands of cross hatching in the upper levels of Midden 1 than in the bottom three levels, as well as a relative abundance of decorations of incisions on the shoulder in the top half of Midden 1 compared to the bottom (Table 6.3). Nail-impressed decoration (Position 2 8v) is only found in the Burrow pit and Test Pit 1, level 3, but is present in the lower levels of Midden 1. A new set of motifs, P2 3i, appears in the lower levels of the deposit. These motifs are differentiated by the large round impressions, a feature of decoration not found in other triangular motifs at the site.

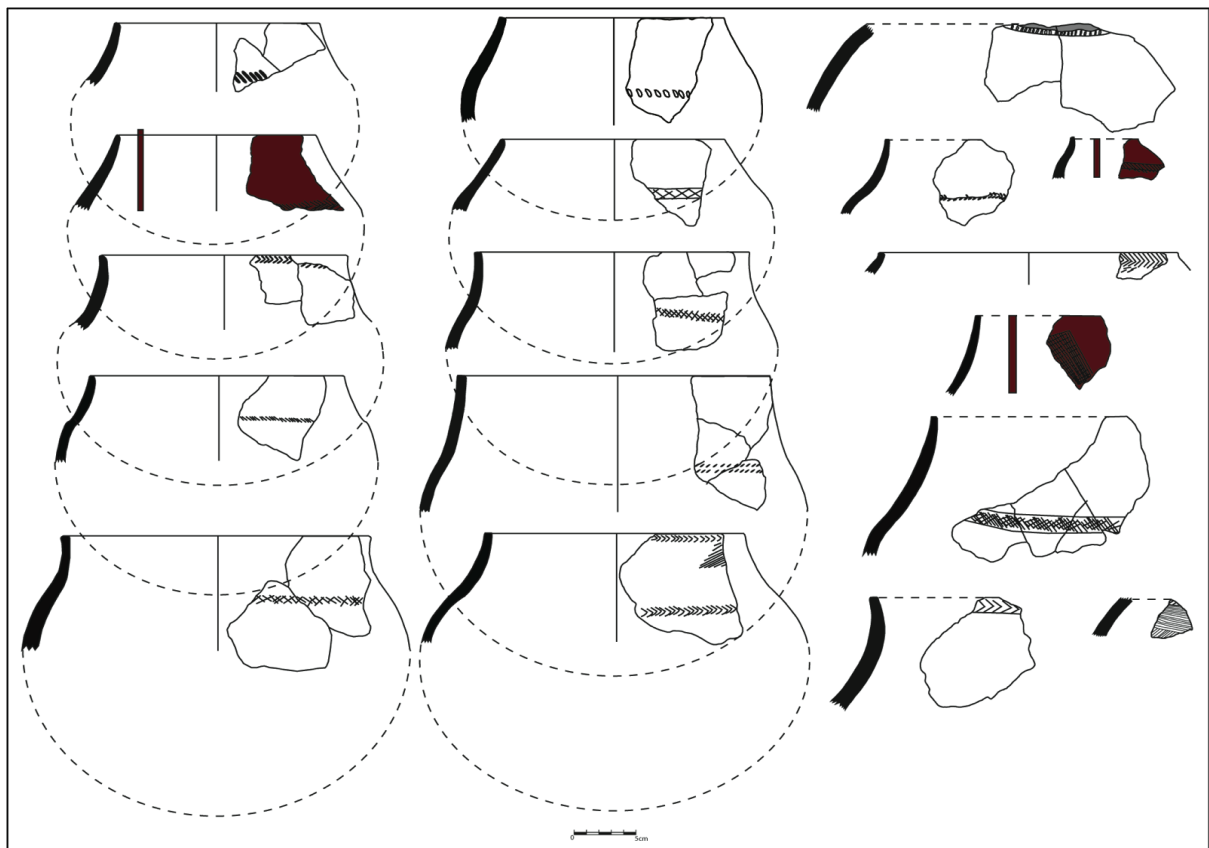


Figure 6.7 Selected jars from Midden 1.

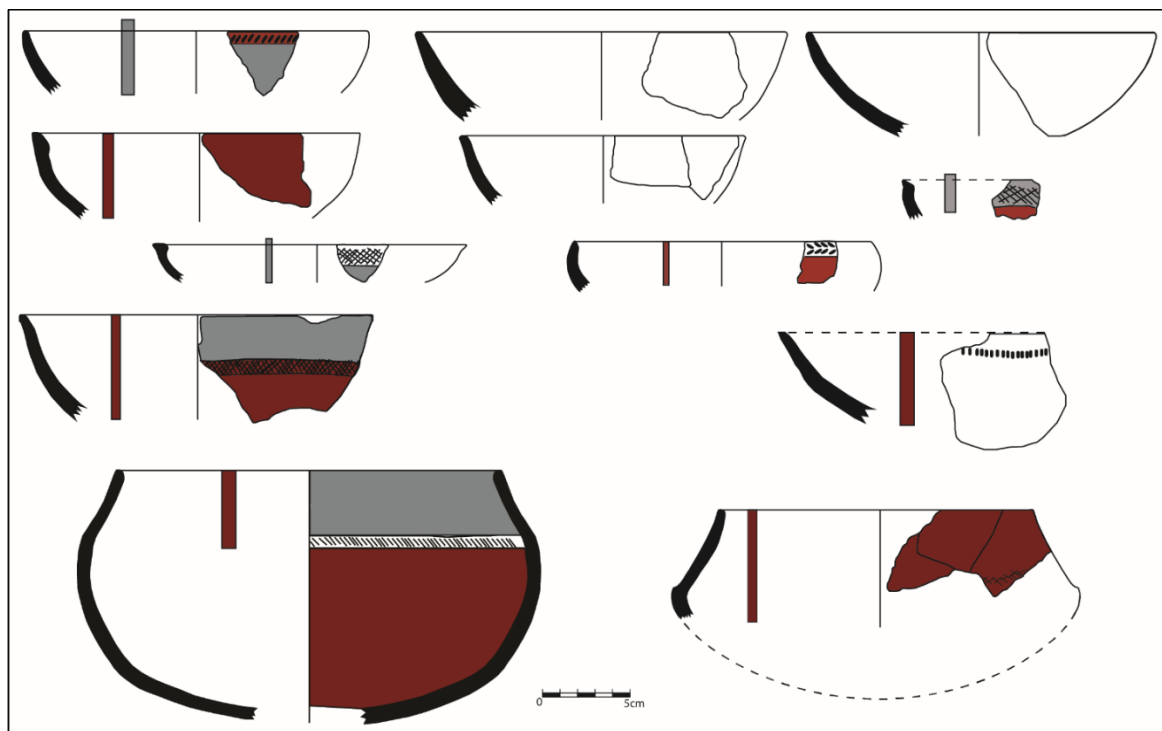


Figure 6.8 Selected bowls from Midden 1.

Burrow pit excavation area

A total of 49 vessels were identified from this excavation, of which 28 were assigned to classes. As expected, the above-ash ceramics were much more fragmented than those from the ash layer, supporting the idea that this was a broadcast scatter rather than a midden. Ceramics from the above-ash layer correlate with the Kgopolwe facies. The ceramics from the ash midden also correlate to the Kgopolwe facies, with the dominance of long-necked jars decorated on the neck and shoulder, and the dominance of herringbone and triangular motifs (Fig. 6.9). Two new profiles appear in the Burrow pit (Class 1 and 2); they are a variation of a long-necked jar in the Kgopolwe assemblages. There is a strong presence of triangle motifs (Table 6.3), especially in position 2. Herringbone motifs in the Burrow pit dominate the decoration found on bowls. Motif variation between the above-ash levels and the ash midden are shared, suggesting that the over-burden was fairly contemporaneous with the below ash layer.

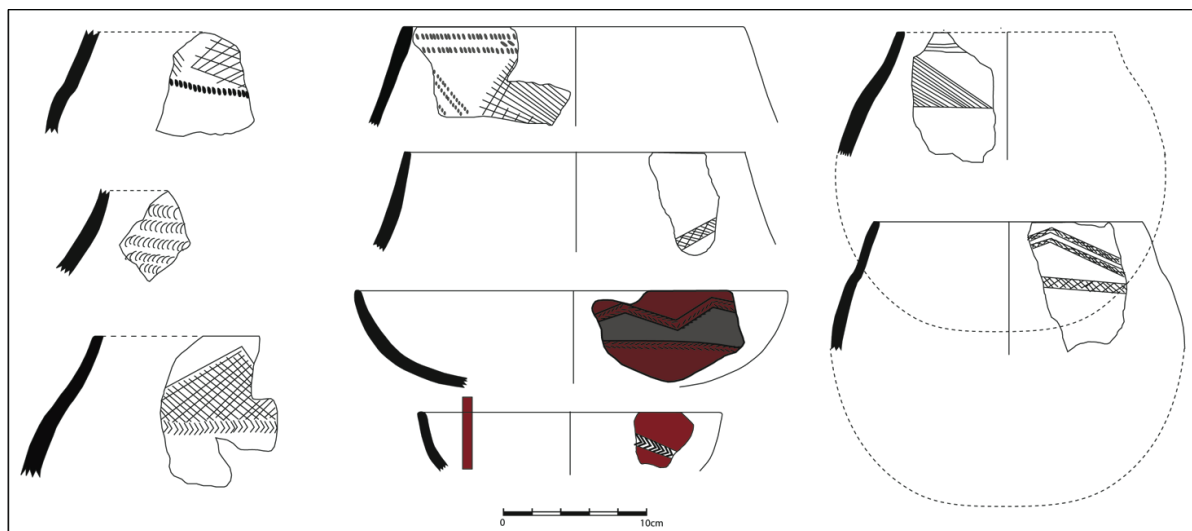


Figure 6.9 Selected ceramics from the Burrow Pit.

Hut floor excavation area

The stratigraphy of the Hut Floor excavation area (see Chapter 5) reveals that the floor was built on top of an ash midden that dates to an early occupation of the site. Very few refitable pots or decorated pots were retrieved from the floor, with the exception of one almost-complete undecorated vessel found *in situ* in a pot holder. Another retrieved vessel, corresponding to the Letaba class, was retrieved from the surface of the floor.

Ceramics from the ash midden underneath the floor (Fig. 6.10) were characterised by the presence of large, thick-walled bowls and long-necked jars (Fig. 6.10). With regard to motifs, the presence of triangles on the neck area of vessels, similar to the Burrow pit and bottom of the Midden 1, shows a similarity to these assemblages. There is a relative absence of single bands on jars in position 1. Although single bands are present in position 3, they do not suggest a dominance of this motif type.

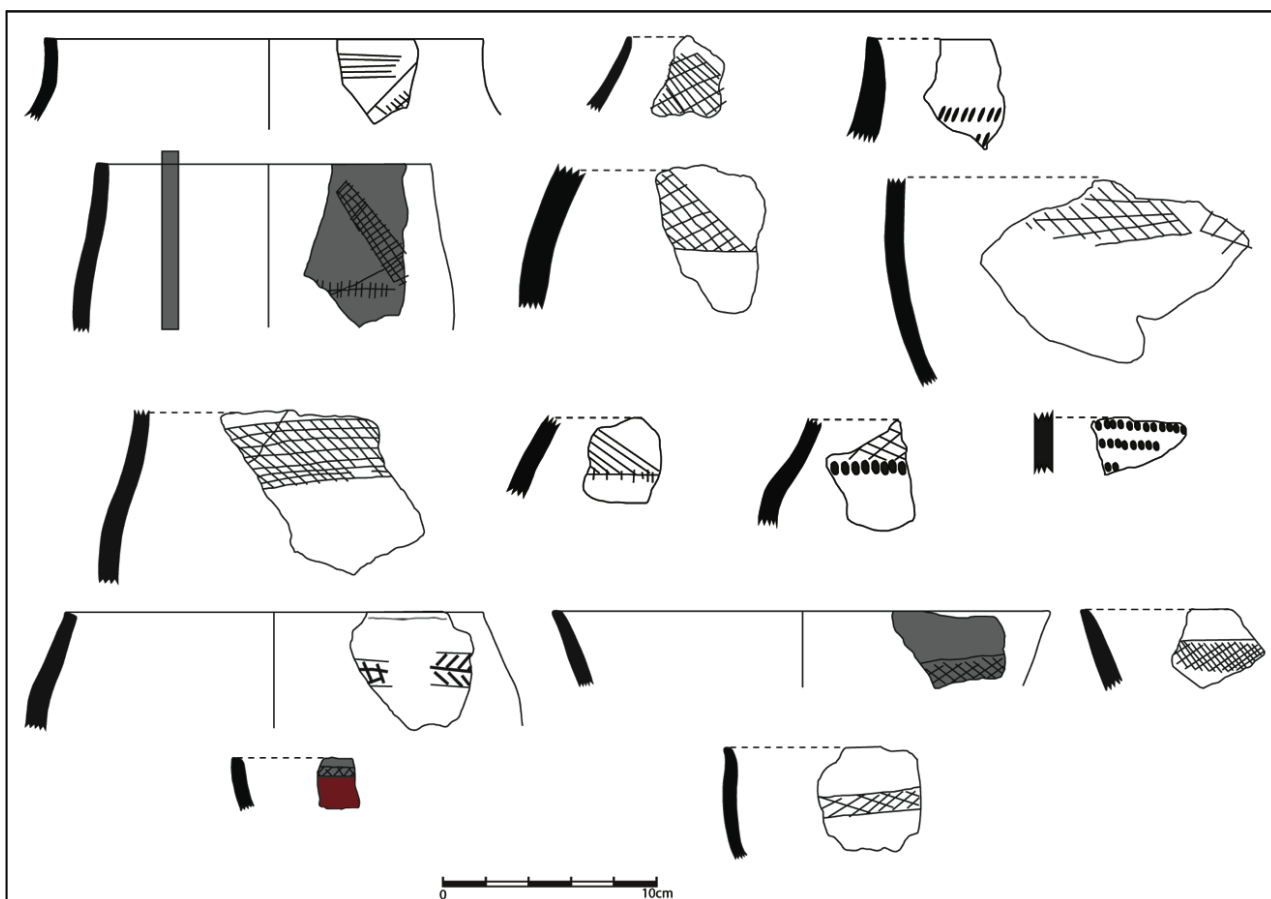


Figure 6.10 Selected ceramics from the Hut Floor ash midden.

Test Pit 1

A total of 29 vessels were identified from this excavation, of which 22 vessels were assigned to classes. Test Pit 1 conforms to the Kgopolwe facies, with a dominance of long-necked jars decorated on the neck and shoulder (Class 3 and 4), and bowls with single bands of decoration of the rim or body (Class 10). Motifs are dominated by variations of triangular designs on the neck (Position 2: 1i, 2i, 3i, 4i, 5i). One motif, an upside down triangle on the rim (Position 1:4i), is the only example in the Shankare assemblage (Fig. 6.11). The motif is combined with a single band of herringbone in position 3, which suggests that it is a variation of a Kgopolwe motif combination.

At the bottom of this excavation, on the sterile soil, one ceramic fragment was recovered (profile unknown) that was decorated on the neck (Position 2: 5i). The vessel has deep incisions and is

thickly walled, and may represent an earlier Mzonjani or Silver Leaves facies in the region, though its small size hinders further comparison.

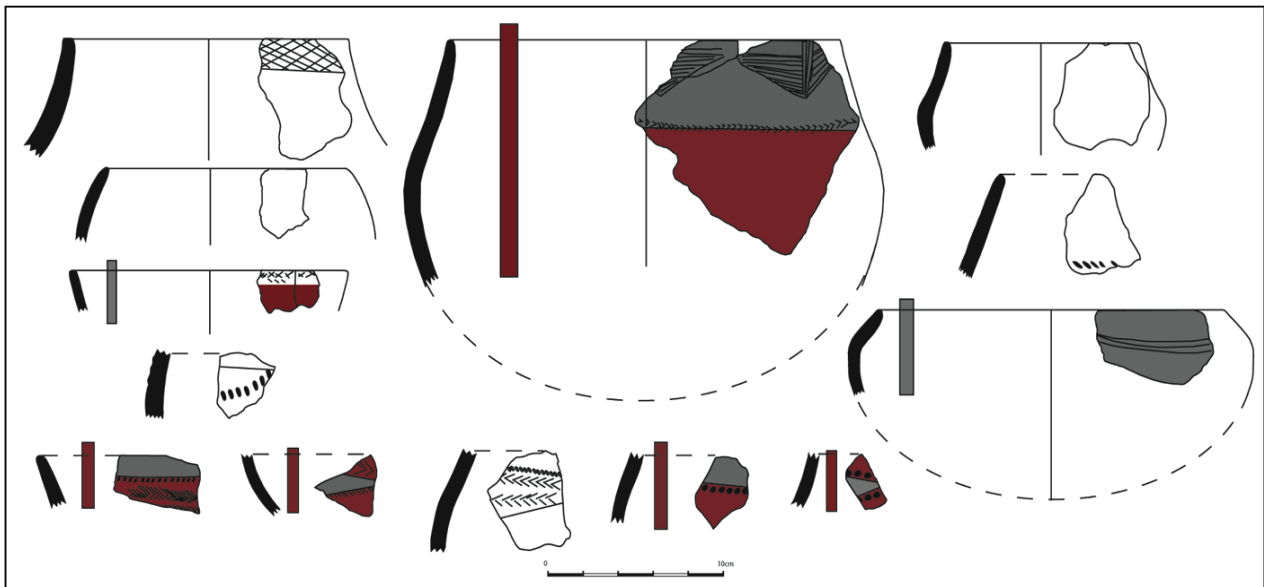


Figure 6.11 Selected ceramics from Test Pit 1.

6.7 Inter-site comparisons

6.7.1 Comparisons between Kgopolwe assemblages at Shankare

Comparisons in profile, decoration motifs, decoration placements and class categories between Midden 1, the Hut Floor midden, Test Pit 1 and the Burrow pit indicate that these ceramics assemblages share overlapping attributes, indicating their relatedness in the form of a facies. Profile 1, long-necked jars, was dominant across these excavation areas (Table 6.2). Bowls were characterised by open hemispherical bowls, Profile 4, with no clear variation in lip profiles across excavation areas. Carinated bowls, Profile 5, were, however, unique to Midden 1 and Test Pit 1. Characteristic motifs across these excavation areas were herringbone decorations (Position 1, 1ii,

3ii; Position 2 1i, 3i, 8vii; Position 3 1ii) and triangles or arcades on the neck or shoulder (Position 2 1i, 2i, 3i, 4i, 5i, 6i; Position 3 3). Importantly, the distribution of classes (Table 6.5) shows a clear overlap of class types. These assemblages show a dominance of long-necked jars, decorated on the neck and shoulders or on the rim and neck, and bowls decorated with single bands below the rim and on the body.

Strong similarities in motifs and motif combinations exist between the Hut Floor Midden and Burrow Pit Midden, particularly the combination of triangles with a single band on the neck and shoulder. One vessel shared the same motifs and layout and appeared to be a fragment of the same pot. Subtle variations in motifs indicate potential differences in motifs between the Burrow Pit and Hut Floor excavation areas, on the one hand, and the upper levels of Midden 1, on the other hand. Crosshatched bands in P1 and P3 combinations (Class 3) are emphasised in the top 40cm of M1. However, few of these vessels were recovered from the Burrow Pit and Hut Floor excavations. Similarly, fewer jars from the Burrow Pit and Hut Floor areas are decorated on the rim (Table 6.3).

Motifs from Test Pit 1 reflect a mixture of both Midden 1, the Burrow Pit and the Hut Floor middens, without clear chronological differentiation (Fig. 6.11). Some elements seem to correspond more closely to the Burrow Pit and Hut Floor midden—for example, the dominance of triangles in P2. New motifs found in Midden 1 (Position 2, 3i) are represented in layers 2 and 6 of the test pit. Fingernail decoration (P38v) is found on vessels from level 3, suggesting a level of contemporarily with the Burrow Pit and Hut Floor middens. One carinated bowl was recovered from Test Pit 1, found in level 3. Differences in motifs throughout excavation areas likely indicate the variability within the Kgopolwe facies. Given the absence of radiocarbon dates for different areas of the site, including Test Pit One, the typological similarities between Test Pit 1 and other areas on the northern base of Shankare Hill provide an important indication of the similarity between these occupational areas.

6.7.2 Comparison between Letaba and Kgopolwe assemblages

The vessels from the terrace excavations differ significantly from the excavation areas on the northern flats adjacent to Shankare Hill. Profile variation (Table 6.1) is clearly differentiated from

the rest of the site, with the dominance of short-necked spherical pots and spherical pots. Similarly, decoration motifs show limited variation in comparison with ceramics from other areas of the site, with the dominance of a single band of decoration on the neck or shoulder for both profiles (Fig. 6.6). The similarity of the crosshatched-band category in Letaba and Kgopolwe ceramics, evident in the sample from Shankare, led van der Merwe and Scully (1971) to conflate these facies. However, the intersection of profile and layout separates the two distinct ceramic facies, as was further demonstrated by Evers and van der Merwe (1978).

6.8 Discussion

The above analysis of the Shankare assemblage indicates the presence of two distinct ceramic facies, Kgopolwe and Letaba, corresponding to the northern flat areas and the terraced excavation areas, respectively. Stylistic variation, present in the identification of two distinct ceramic facies in the Phalaborwa assemblage, requires further investigation. Of importance is a consideration of the relationship between ceramic style and crafting at Shankare over time, and, linked to this, the relationship between ceramics style, identity, and regional political economy. In addressing these issues, two pertinent questions arise. Firstly, what does a ceramic facies represent? Secondly, do the two different facies in the Shankare sample reflect similar or distinct processes in the expression of style?

The Letaba facies provides an important dimension to interrogating ceramic style. The profiles, decoration placements, and motifs of ceramics from the terraced areas at Shankare correlate with the Letaba assemblage identified by Chatterton et al. (1979), Evers and van der Merwe (1978), Meyer (1986), and Loubser (1991) at different sites in the Lowveld region. The Letaba assemblage from Harmony village—associated with the exploitation of the Harmony copper mine, soapstone factory and saltworks—closely resembles the Letaba ceramics from Shankare, with a dominance of globular jars, globular pots with short rims, and open bowls (Evers 1975; Chatterton et al. 1979).

The style represented in the Letaba ceramic facies is a regional ceramic style that has been variously associated with 18th- and 19th-century sites across the region, and is still used in the Lowveld by Sotho, Tsonga and Venda communities (Evers and van der Merwe 1978; Loubser 1991).

While the oral and written records reviewed in Chapter 3 emphasise distinct political and social identities in the region, these were not reflected in ceramic style. The distribution of such a widespread regional potting style must be explored in relation to other principles that determined vessel style—for example, economic, social or cultural factors that influenced interaction in the heterogeneous landscape of the Lowveld in this period.

Loubser (1991: 167) has argued that the widespread distribution of Letaba ceramics relates to the cultural influence of the Venda state in the region from the 18th century. This model has also been applied to explain the distribution of Mapungubwe ceramics in the Soutpansberg region in the 10th–13th century period. However, the mechanisms of the influence of the Venda state, explored in Chapter 3, remain undertheorised. Furthermore, the model fails to explain the continued use of Letaba ceramics after the demise of Venda influence.

The use and production of Letaba ceramics by Lemba potters provide an interesting dimension to the relationship between the expression of style and social identification. An often-overlooked aspect of Letaba ceramics involves their manufacture by Lemba potters, who produced pottery for exchange (Chapter 3). The foundation for using ceramics as a proxy for group identity rests on the assumption that producers and consumers were of the same community (Huffman 1980: 4) and not associated with a specific caste/group (Huffman 1982: 134). According to Huffman, there is no alternative model for the production of pottery but by homestead production. However, historically, Lemba potters living in dispersed communities across the Lowveld made Letaba pottery for consumption as well as trade. Indeed, this aspect of ceramic production in the given historic period may be important in understanding the widespread utilisation of a regional ceramic style.

Schoeman (1997) recorded the archaeological distribution and use of the Maroteng facies, a ceramic style found across the Mpumalanga escarpment to the south of the Lowveld. Maroteng ceramics were used in association with a diversity of socially and politically differentiated communities, including the Ndzundza Ndebele, Koni, and Pedi groups. The widespread ceramic facies in this region contrasted with the distinct settlement styles and political identities of different communities on the landscape. Regarding the Ndzundza Ndebele, its use of a regional Maroteng ceramic style was in contrast to the retention of other material expressions (Schoeman 1997: 47).

The Maroteng and Letaba facies clearly reflect a different scale of style based on a regional distribution. Such observations indicate that, unlike the association with stylistic distribution and cultural identity, variability in ceramic style must be approached based on individual cases (Hall 2012: 318). The above discussion calls into question the relationship between the stylistic categories encapsulated in the archaeological construct known as a facies and the articulation of meaning by persons making and using ceramics in the past. Style may relate to different social/political/technological considerations that are historically contingent and that may be constructed in relation to various underlying principles (Hodder 1982; Lemonnier 1986; Sterner and David 1991; Lyons and Freeman 2009; Hall 2012).

A comparison of the regional distribution of the ceramic styles of Letaba and Kgopolwe is an important avenue for addressing the expression of style in these two periods. In comparison with the Letaba facies, the Kgopolwe facies appears to have a more limited geographical distribution, restricted to Phalaborwa (Fig. 6.12). So far, Kgopolwe has only been securely identified at three sites in Phalaborwa—Kgopolwe, Nagome and Shankare—but it may possibly be present at adjacent sites in the region. The distributional differences between the Kgopolwe and Letaba ceramic facies potentially indicate a variation in the expression of style between these two periods.

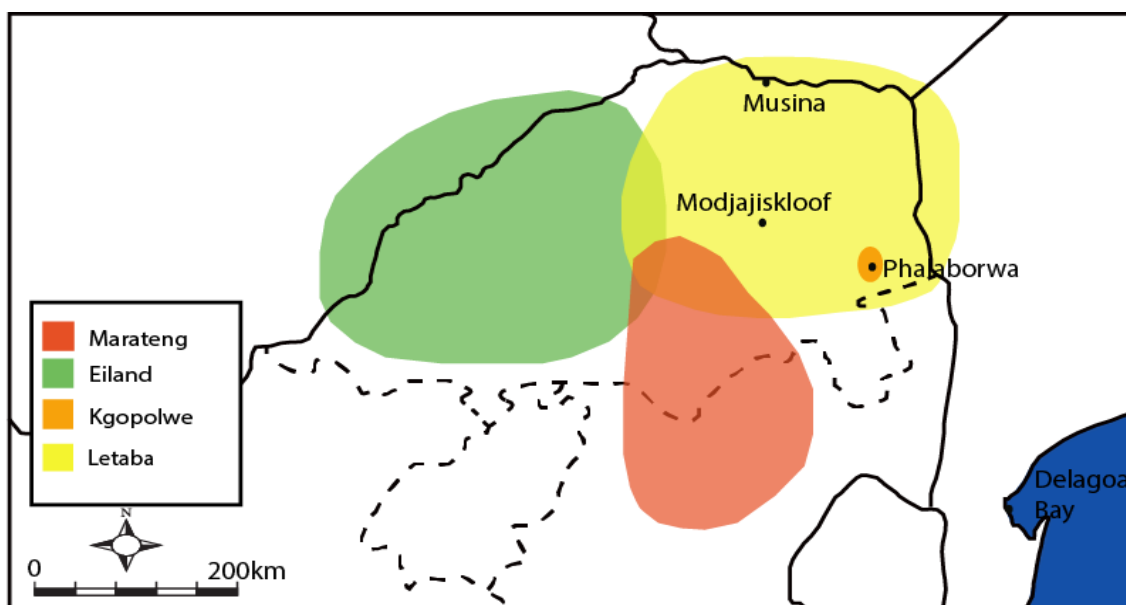


Figure 6.12 The distribution of ceramic facies discussed in the text.

This variation can be tested through assessing the relationship between the Kgopolwe assemblage from Shankare and other assemblages from Phalaborwa, as well as assemblages from the surrounding area such as the closely related Eiland ceramics facies. Based on the above analysis, the ceramics from the early occupation of Shankare share many similarities with those retrieved from Kgopolwe and Nagome, and fit within the stylistic variation anticipated by the facies of Kgopolwe—although certain differences in motif combination, as well as the presence of carinated bowls, were noted. The stylistic relationship between the Shankare sample and the Kgopolwe samples from Nagome, Kgopolwe, as well as that of Eiland, was interrogated via a formal comparison with the classes from these sites established by Evers (1988: 77-53). Included in the comparison were the Toutswe and Mapungubwe ceramic facies. These two facies are contemporaries, but they are unrelated to Kgopolwe, and their inclusion in the analysis acted as a measure for testing the variability between assemblages. The three Eiland saltwork sites included in the comparison are from different excavations (Evers 1988: 77-53). Moritsane and Bambo Hill are Eiland sites and further extend the comparison between Eiland and Kgopolwe. Occupation for these sites range from the 11th to the 13th centuries.

Table 6.6 Showing presence/absence score of ceramic collections from Toutswe (TO), Mapungubwe (MAP), Kgopolwe (KGOP), Nagome (NAG), Moritsane (MOR), Bambo Hill (BAM), Eiland Saltworks 1 (E1), Eiland Saltworks 2 (E2) and Eiland Saltworks 3 (E3). Presence/absence scores were calculated following the methodology set out by Huffman (1980: 22) and Evers (1988).

	TO	MAP	KGOP	NAG	SHA	MOR	BAM	E1	E2	E3
TO										
MAP	7									
KGOP	9	32								
NAG	11	46	76							
SHA	19	38	67	50						
MOR	7	27	53	57	59					
BAM	10	16	39	43	40	54				
E1	9	22	39	50	53	70	80			
E2	10	21	44	55	45	63	52	71		
E3	17	21	36	47	50	72	75	93	67	0

Evers (1988) used the overlap between Kgopolwe and Nagome assemblages, which were over 65% similar, to show that they represented a single facies. In contrast, he argued that the overlap between the Kgopolwe, Nagome and Eiland sites within the range of 40–55% show closely related facies belonging to the same tradition. The results of the presence/absence scores above show a relationship between Shankare, Nagome and Kgopolwe. Shankare and Kgopolwe share a 67% similarity, and Shankare and Nagome a 50% similarity (Table 6.6). However, Nagome and Kgopolwe share a 76% similarity, showing that the variability between the three assemblages may reflect in some variety in overlapping classes, potentially suggesting that there is a wide variety of design styles and classes within the Kgopolwe assemblage—something that is evident in the Shankare assemblage itself. The Shankare sample shows a close relationship with Eiland ceramics (Moritsane, Bambo Hill, and the Eiland Saltworks sites), as do the Nagome and Kgopolwe samples. This finding confirms Evers's (1988) observations of the relatedness of Kgopolwe and Eiland.

Certain questions arise in relation to the stylistic variability of the Kgopolwe assemblage. On the one hand, it is possible that the stylistic variability in the two facies—Letaba and Kgopolwe—reflects differences in terms of the construction and negotiation of the identity of the occupants of Phalaborwa in relation to the local and regional political economy in the two time periods. However, the overlaps and similarities of Kgopolwe and Eiland could represent, like Letaba, a broader regional similarity of style. The close resemblance of Eiland to Kgopolwe is also reflected in the similarity of many Early Iron Age ceramic assemblages over broad regions (Hall 1986; Huffman 2007). Given the importance of regional ties in a low population, Hall suggests that shared ceramic styles, used to decorate household utensils employed primarily in the production and storage of food, may reflect a connection between households in the Early Iron Age (Hall 1986: 86).

The above hypothesis requires further interrogation. Furthermore, it is critical to consider the various ways in which style may be expressed. As a number of authors have argued (see for example Gosselain 2000), technological style may represent a different scale of style that can be contrasted to designs used to decorate a pot. It is indeed possible that the stylistic variation in Iron Age ceramic assemblages, and its relation to identity, may not be adequately captured by MVA methodology, with its overt emphasis on decoration and profile.

6.9 Conclusion

The presence of two distinct ceramic facies at Shankare provides further chronological and spatial insight into the occupation of the site. Letaba ceramics, associated with the terraces, conform to other Letaba collections in the Lowveld, likely indicating their temporal similarity. All the excavated ceramics analysed from the base of the hill deposits, with the exception of one sherd found on the surface of the hut floor, conform to the Kgopolwe style.

The distribution of ceramic style in the Iron Age clearly varied across both time and space. This variability hints at the possible similarities and differences between the expressions of style and embedded social relations. The following chapters will explore the dynamics of identity and interaction through other categories of material culture. This exploration provides an opportunity to expand and refine some of the observations made from ceramic analysis. However, the next chapter will focus on a detailed study of metal production remains from the excavations to address the organisation of production at Shankare.

Chapter Seven:

From the hammer to the anvil and beyond: the organisation of metal production at Shankare

“All we understand is that metallurgy was important to the development of some African cultures. It is our job to determine that importance not from some a priori ideal of the value of metals but from a critical review of the record.” (Holl 2000: 5).

7.1 Introduction

A significant amount of research has been conducted on the technology and sociology of copper and iron production in the Lowveld, including Phalaborwa (van der Merwe and Killick 1979; Pistorius 1989; Miller et al. 2001; Miller and Killick 2004; Thondhlana 2013, Thondhlana et al. 2016; Killick and Miller 2014; Killick et al. 2016). For example, using samples from Shankare, Thondhlana (2013; Thondhlana et al. 2016) established that the full *chaîne opératoire* of copper production—from the beneficiation of ores to smelting, melting and final casting—took place at the site. Further studies revealed that iron was also smelted from titania-rich magnetite ores at the same site (Killick et al. 2016). In order to understand the organisation of metal production at Shankare, this chapter builds on the wealth of existing work but also goes a few steps further. It engages with how the different stages of the metal-production cycle were organised diachronically and synchronically across the site to estimate how activity areas were distributed across the site and the intensity of production (Costin 1991) at Shankare. One of the principal research objectives involved determining whether there were areas at the site that were associated with specific activities in the metal-production sequence. This question is important because, in some production contexts, ore-processing areas were separated from smelting precincts, which were also separated from smithing workshops. Furthermore, it was deemed essential to identify whether any mundane domestic material culture was associated with metalworking activities at the site. It has traditionally been assumed that stages such as smelting were often carried out away from residential areas because

of their associated symbolic factors. The technological style and depositional context of metallurgical remains can provide insights into a wide range of practical and cultural choices (Miller and Killick 2004; Chirikure 2007; Rehren et al. 2007; Rehren and Pernicka 2008; Killick and Fenn 2012). Therefore, the primary aim of this chapter is to identify the production processes represented by the various materials excavated across the different areas of the site using standard archaeological and archaeometallurgical techniques. The outcomes of this endeavour were used to investigate the nature of production at the site and its relationship to the other technologies practised by the occupants of Shankare.

7.2 Description of metal production remains at Shankare

The excavations at Shankare yielded a significant amount of metal production remains, including remnants of ore, pieces of slag, fragments of crucibles and finished objects scattered throughout the site. When systematically studied, these materials have the potential to illuminate the different stages of the *chaîne opératoire* (Sillar and Tite 2000; Jones 2004). An essential first step is the definition of the different material remains, and the stages they represent within the *chaîne opératoire*. Sustained work on metal production across the African continent and elsewhere has produced essential diagnostic criteria that make it possible to identify ores, smelting slag, smithing slag, tuyères, crucibles and other associated infrastructure (see for example Bachmann 1982; Friede and Steel 1982; Miller and Killick 2004; Chirikure 2006; Deme and McIntosh 2006; Hauptman 2007). Definitions of the key materials involved are provided below.

7.2.1 Ores

Ores are rocks with mineral content that can be economically exploited using the available technology, in a given context. At Shankare, the remains of ores were identified and physico-chemically characterised by Thondhlana (2013), and found to include magnetite and copper carbonates such as malachite. The malachite was often attached to the magnetite, and separating it from the iron present in the magnetite required great skill on the part of the smelters: in the event of co-smelting, the production of iron oxides weakens copper (Miller et al. 2001). Most ores in the present study were identified by the green colour of malachite and the platy nature of magnetite (Fig. 7.1). The designation “ores” was superficial, however, because such materials may represent unwanted parts of host rocks that were thrown away for being unsuitable for smelting (Chirikure and Rehren 2004). Nevertheless, they indicated that the beneficiation of ores took place at the site.

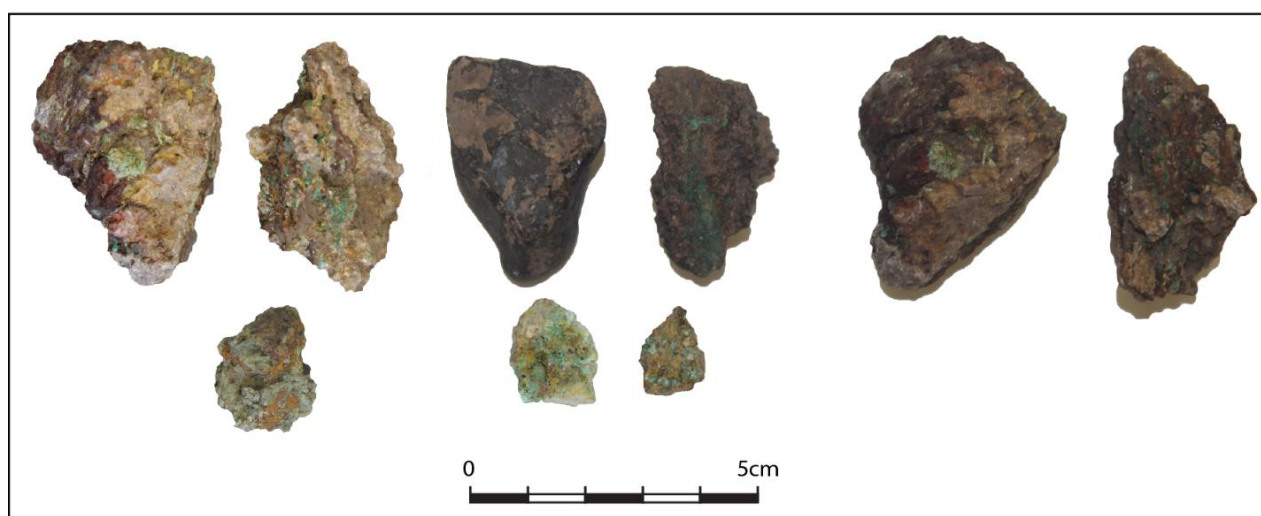


Figure 7.1 A range of ore samples from Midden 1 and the Hut Floor midden.

7.2.2 Slags (smelting and smithing)

Slags represent one of the most ubiquitous forms of material evidence of metal production from archaeological sites (Miller and Killick 2004). They are a ferrosilicate waste product produced through smelting, melting or smithing (Friede et al. 1982; Miller and Killick 2004; Charlton et al. 2010). Within limitations, slag can be visually differentiated into a number of categories based on morphological considerations (Miller and Killick 2004; Chirikure and Rehren 2004). Shankare slags were differentiated into flow slag, crushed slag, furnace slag, and unidentified slag. Furnace slags, which solidified in the furnace during smelting, are variable in size and shape. They have charcoal inclusions or pieces of furnace floor/wall attached to them, and can sometimes have an irregular porous shape (Friede et al. 1982). Crushed slags are macroscopically similar to furnace slags, but are smaller in size, with sharp angular breaks. Crushed slags are furnace slags that were crushed to mechanically remove the embedded copper prills. Flow slags also originated from smelting and are generally well rounded with a clearly defined flow structure. Smithing slags are generally difficult to identify macroscopically but are often more rusty and highly magnetic (Bachmann 1982).

In general, the slags from Shankare were typically smallish in size (0–30mm) and on macroscopic evidence were dominated by furnace slags, with clear charcoal impressions (Fig. 7.2). Many of the furnace slags appeared to have been crushed, as evident by the ubiquity of sharp angular breaks. It is possible that the slags were composed of a mix of both iron and copper slags. Although it is very difficult to separate copper from iron-smelting slags in the absence of scientific testing (Miller and Killick 2004), copper slags typically have green corrosion-stained copper prills that are not found in most iron slags (Miller et al. 2001; Thondhlana 2013). Furthermore, iron-smelting slags were not crushed to retrieve tiny prills as was the case in copper production, which involved the breaking down of lumps of slag for the mechanical beneficiation of the prills trapped inside the slags (Hauptmann 2007). The density of crushed furnace slags at Shankare likely indicates a process in which copper prills were liberated and further consolidated into crucibles, many of which were recovered from the site. Very few smithing slags were found at the site.

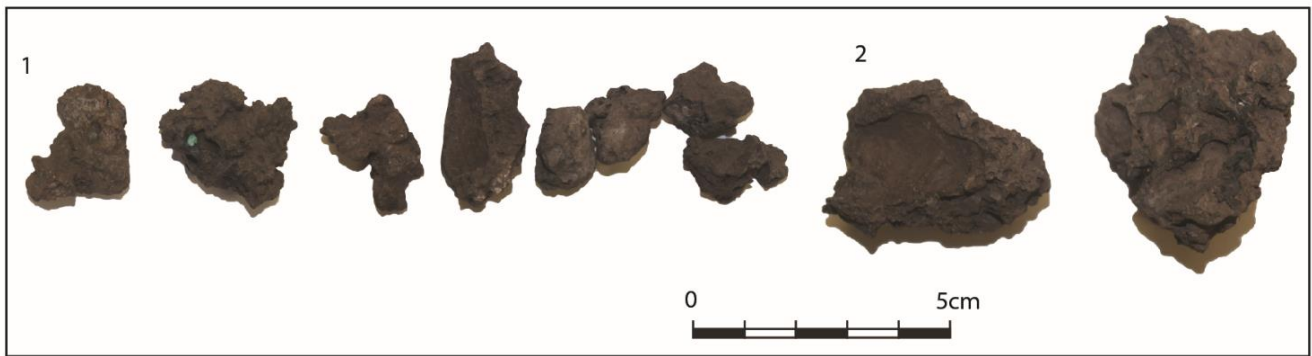


Figure 7.2 1: Crushed slag with visible cupreous prills, Midden 1. 2: Furnace slag with charcoal impressions, Test Pit 1.

7.2.3 Technical ceramics (tuyères and furnace-wall fragments)

Tuyères and furnace-wall fragments constitute another important category of metallurgical remains from Shankare. Furnace-wall fragments were typically thick (10–30cm range) clumps of ceramic that in some cases were heavily vitrified (Fig. 7.3). However, their size did not permit the delineation of the shape of the furnace. The recovery of furnace walls point to the practice of smelting rather than to smithing hearths or forges, which typically lacked protruding walls. Tuyères are clay air pipes used to supply air into the furnace (Miller and Whitelaw 1994). Tuyère fragments from Shankare were heavily vitrified on the ends that were inserted inside the furnace (Fig. 7.4). Mason (1986: 116) found decorated tuyère fragments from Shankare. No tuyère fragments from Shankare recovered in this study were complete enough to reconstruct their original length. Nevertheless, the shape of these tuyères appear to be slightly flared, conforming to similar shaped materials that were archaeologically documented at Phalaborwa (van der Merwe and Scully 1971; Klapwijk 1986). Tuyères can be associated with smelting, smithing, and even melting. However, tuyères used in smelting normally have heavily vitrified ends, which are not common in smithing and melting, where temperatures are typically not as high as they are in smelting.

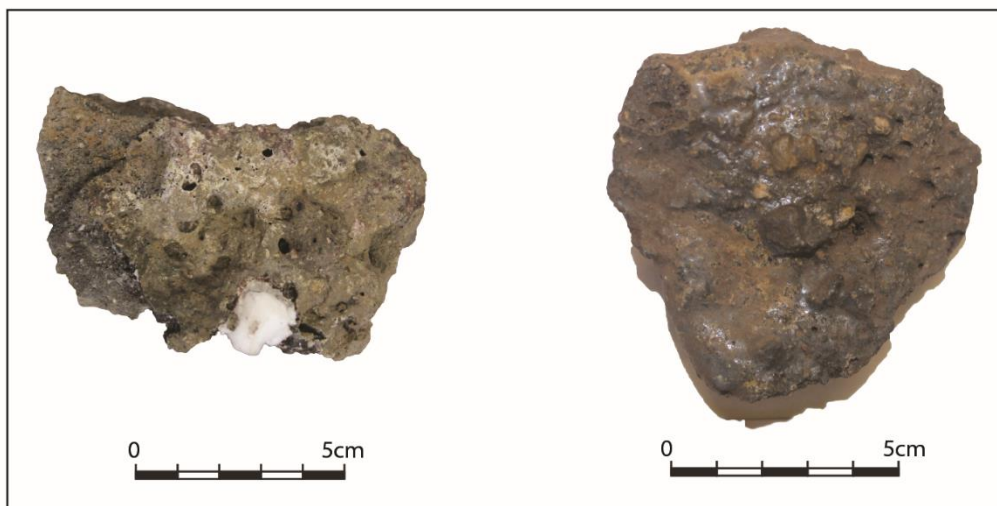


Figure 7.3 Furnace wall fragments from Test Pit 1 and the Burrow Pit above ash midden.



Figure 7.4 The distal end of a tuyère, Midden 1 (first two to the left) and slagged tuyère fragments, Midden 1 (last two to the right).

7.2.4 Technical ceramics (crucibles)

The excavations at Shankare exposed a fair amount of crucibles (Fig. 7.5). Crucibles are free-standing, potentially moveable vessels used for high-temperature processes, such as the smelting or melting of metals (Bayley and Rehren 2007). Differentiation of these stages is based on the size, shape and morphology of the crucibles, as well as the attached slag (Hauptmann 2007: 218). Crucibles used in southern Africa appear in different forms: there are specialised or purpose-made vessels, and unspecialised vessels usually resembling normal pottery. The majority of crucibles from first and second millennium AD sites in southern Africa appear to have been fashioned from recycled domestic pottery (Miller 2002; Chirikure et al. 2015). However, specialised crucibles are known more widely from southern African sites dating to the second millennium (Maggs and Miller 1995; Bandama et al. 2016). Although Pistorius (1989) recovered a specialised crucible from Shankare, no specialised crucibles were recovered as part of this study. The crucibles from Shankare, all of which came from the 10th–13th century occupation of the site, were largely undecorated concave sherds, with only six fragments (12%) decorated on the outside. 3 samples had diagnostic pot rims (Fig. 7.5:1–3) while the rest appeared to be broken pottery without clear diagnostic vessel parts (Fig. 7.5:4 and 6). Three sherds (Fig. 7.5:7 and 8) had smoothed edges, indicating that this ceramic had been worked to form a crucible shape. The average thickness of the ceramic vessel was 9,08mm. Slag adhered to the inside (concave) part of all of the crucible sherds, indicating firing from the inside, but slag on the outside was also found on a few crucibles. The crucible slag varied in colour, from thick glassy slag to blackish slag with red and white stains; some had clear cupreous inclusions (in the form of copper droplets and green stains), and others had thin smears of dark slag. Some samples showed evidence of considerable slagging (i.e. Fig. 7.5:5), while others had only a thin veneer of slag (i.e. Fig. 7.5:7). The variation in the thickness of crucible slag across samples may potentially indicate different underlying processes. The presence of slag and vitrification on the inside of crucible sherds suggests that metals were heated in the crucible from above. This method of heating conforms to copper crucibles from second millennium sites in South Africa (Miller 2010; Chirikure et al. 2015).

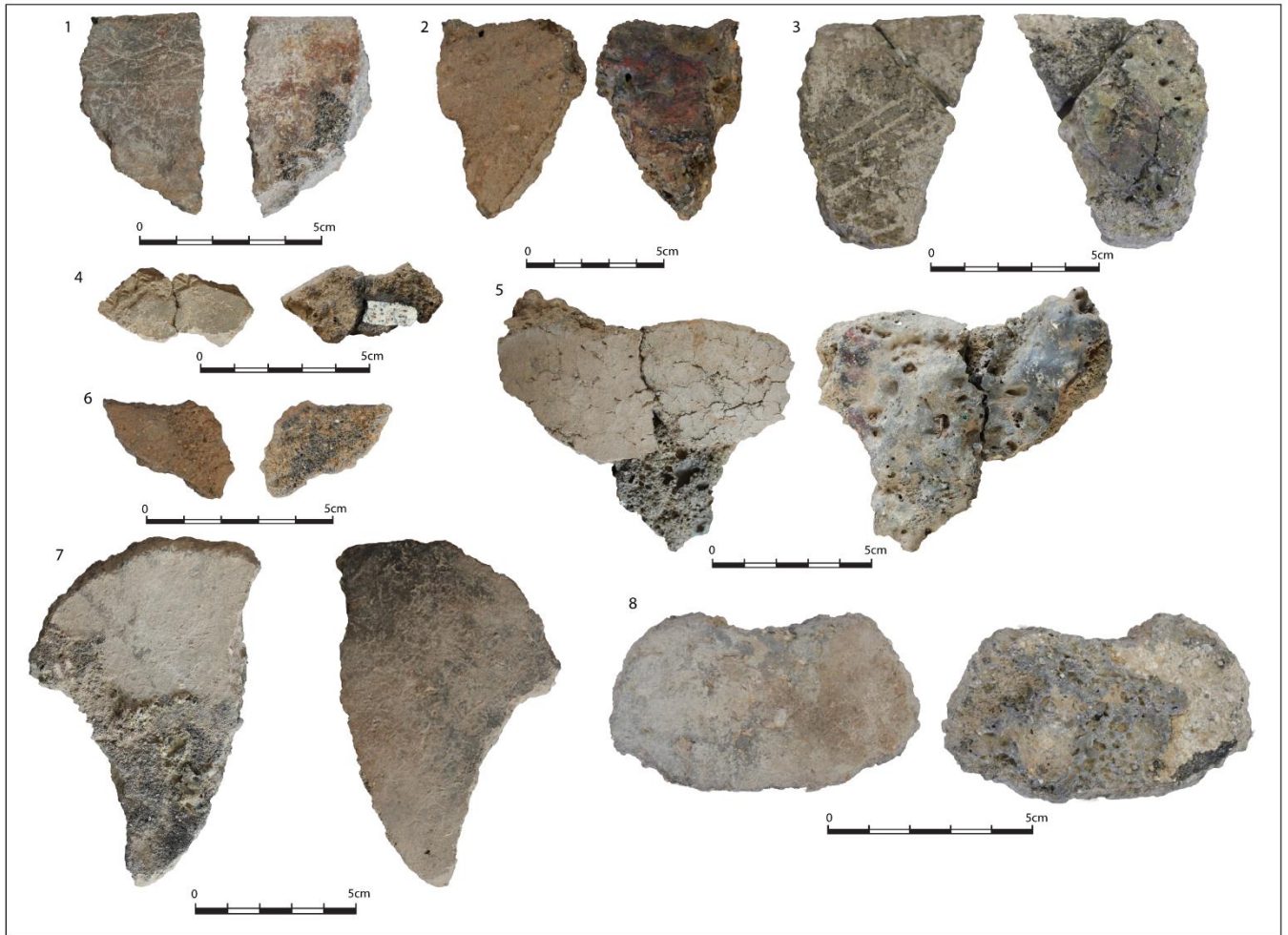


Figure 7.5 A selection of crucibles from Shankare. 1: Decorated rim, Hut Floor ash midden; 2: undecorated rim, Midden 1; 3: decorated rim, Burrow Pit ash midden; 4: decorated fragment, Midden 1; 5: fragment, Test Pit 1; 6: fragment, Midden 1; 7: crucible showing a deliberate modification of the ceramic fabric by rounding the edges, Hut Floor ash midden; 8: crucible sherd also showing rounded treatment of ceramic, Test Pit 1.

7.2.5 Copper prills

Small rounded copper prills were also recovered from the excavations. These were small (Fig. 7.6: 4), light to dark brown prills with cupreous green patination. Some of the prills were likely spilled during the casting process (Miller 2010). In addition to these prills, two larger copper masses were

identified from Midden 1 (Fig. 7.6: 7). These appear to be pure copper masses, potentially the result of molten copper solidifying into a crucible.

7.2.6 Finished objects

The excavations also uncovered finished metal objects (Fig. 7.6), which included pieces of copper and iron wire, beads, and other objects (Table 7.3). Iron objects from Shankare were poorly preserved, thus inhibiting the identification of the artefacts. Copper artefacts were relatively more numerous, and ranged from wound to straight wires.

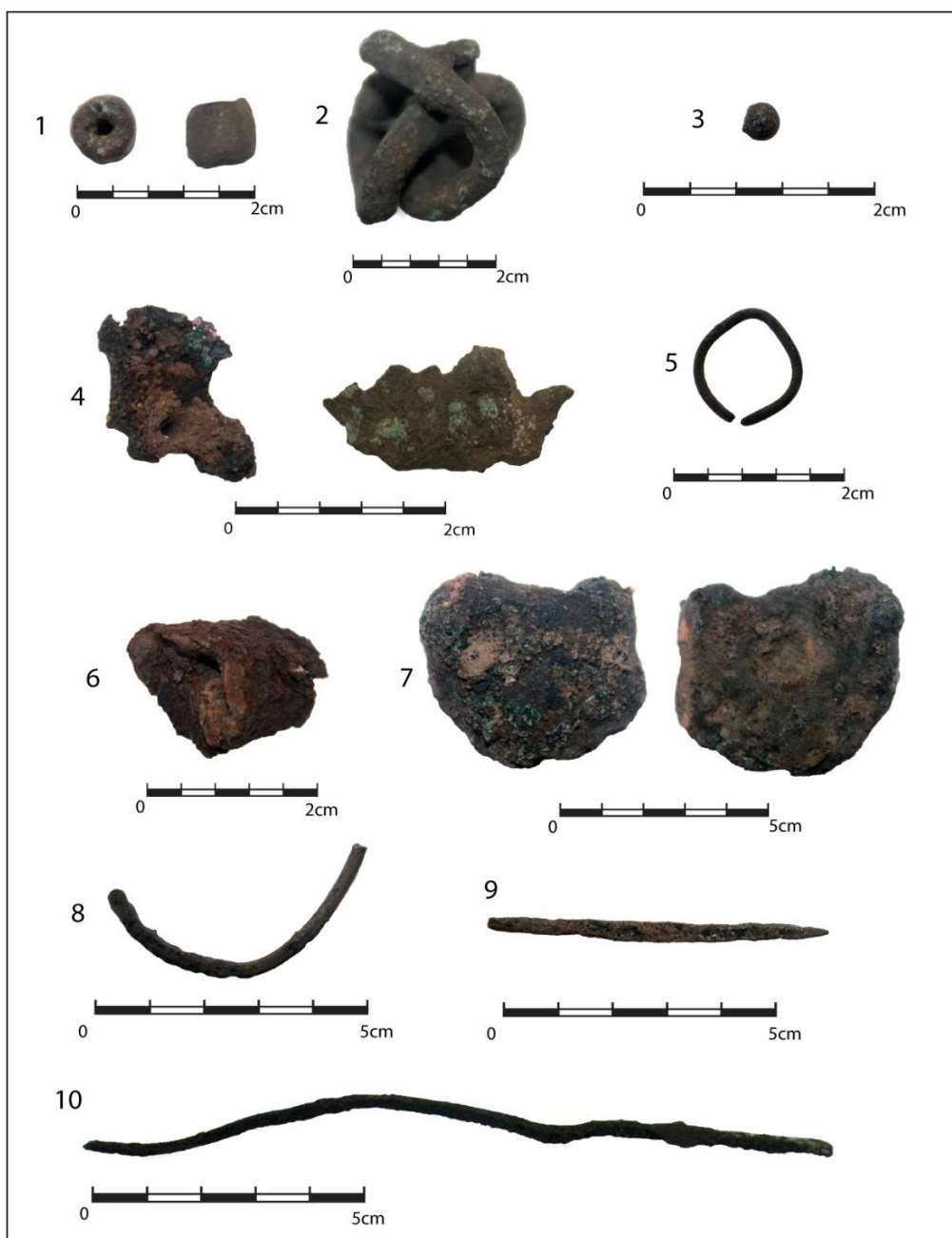


Figure 7.6 A selection of copper prills and finished metal items from Shankare. 1: cupreous bead from Midden 1; 2: cupreous wound wire, rectangular in section, Midden 1; 3: cupreous droplet, Midden 1; 4: cupreous spills, Midden 1; 5: wound wire, Terrace 1; 6: ferrous corroded piece, Test Pit 1; 7: copper mass, Midden 1; 8: cupreous wire, rectangular in section, Midden 1; 9: copper rod, rectangular in section, with one end narrowing to a point, Burrow Pit ash midden; 10: cupreous wire, rectangular in section, Midden 1.

7.3 Distribution and density of metal production at Shankare

Based on the diagnostic criteria for the different categories of metallurgical remains at Shankare, and the density of remains from various contexts, an attempt was made to explore the distribution of activity areas at the site (Fig. 7.7). The first significant observation is that all the different excavation areas contained evidence of metallurgical debris, superficially suggesting that various stages in the *chaîne opératoire* of copper working were taking place across the site, in close association with domestic contexts (Table 7.1). While furnace-wall and tuyère fragments were less widely distributed (Table 7.1), slags were present in all excavation contexts, as were crucibles (with the exception of the terrace excavations). Debris from metalworking was recovered along with domestic debris, predominantly in midden contexts, suggesting that the discard process may have been similar to that for other domestic waste, including ash, broken pottery and food waste. Importantly, metallurgical remains were recovered *in situ* and there was no evidence of post-depositional movement (Schiffer 1987).

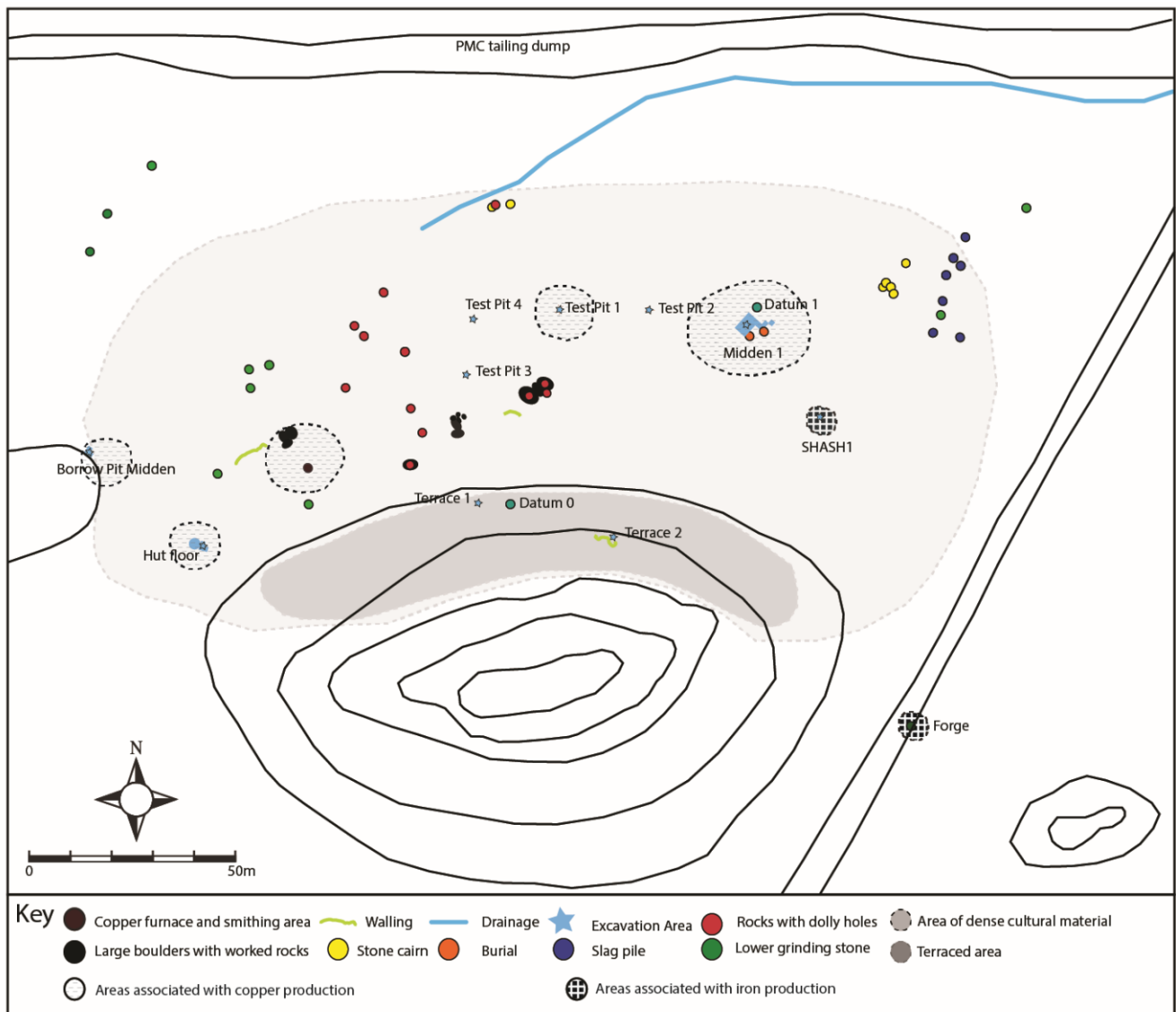


Figure 7.7 Map showing the distribution of copper and iron working areas at Shankare. Estimates of the distribution surrounding the excavated areas were based on the visible extent of the midden.

Table 7.1 Distribution of metal production remains and finished objects from Shankare. 'X' indicates presence.

	SHAM1							SHATP1						SHABP Above ash	SHABP Below ash	SHA Hut floor				SHAT1 &2
	L1	L2	L3	L4	L5	L6	L7	L1	L2	L3	L4	L5	L6			Floor	L1	L2	L3 &4	
Material																				
Ores	x	x		x	x	x		x		x	x	x	x	x	x		x	x		
Slagged ceramics	x	x	x	x	x	x		x	x		X		x	x	x		X			
Tuyères (no slag)		x		x		x		x			x			x						
Glassy tuyères		x	x	x		x		x			x		x	x	x					x
Glassy furnace wall	x				x		x	x	x				x	x	x					
Crucibles	x	x	x	x	x		x		x	x	x		x	x	x		x	x	x	
Furnace slag	x	x	x	x	x	x		x			x	x	x	x						
Crushed slags	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x	x		
Bloom/cro wn material																				
Unidentifi ble slag								x					x	x						x
Casting spills	x	x	x	x		x	x													x
Metallic artefacts (ferrous)	x	x							x											x
Metallic artefacts (cupreous)	x	x		x											x					x

As shown in Table 7.1, objects relating to the processing of metals are present fairly consistently throughout the deposit of Midden 1. Crushed slags with cupreous prills, ores containing malachite, and glassy cupreous slagged ceramics were found in all layers, pointing to an emphasis on copper production. Slagged furnace walls and tuyères were heavily bloated and highly vitrified with red/green/black glassy slag, pointing to their use in smelting. The ores present in Midden 1 were typical of the geology of the Lolwe complex, with malachite with magnetite inclusions (Miller et al. 2001). The majority of slags were crushed (Table 7.2), with cupreous droplets identifiable in some of the fractures (Fig. 7.2). Isolated ferrous slags were apparent in small quantities in the deposit. Slag densities throughout Midden 1 were fairly consistent (Table 7.2) from level 1 to level 6, but levels 1 to 4 were the most dense, and in levels 5 and 6 the sample sizes were smaller, while level 7 consisted of a very small sample. The total weight of slag from Midden 1 was 3,78kg, making the density of the deposit 0,67 kg/m³.

Table 7.2 Table showing the weight distribution of ores, slags and slagged ceramics (not including crucibles) from Shankare. Other slag is undiagnostic (SHAT1 and 2), highly ferrous (SHABP_above and SHATP1, L6) or flow slag (SHATP1, L1) (weight in grams).

	ORES	SLAG (TOTAL)	FURNACE SLAG	CRUSHED SLAG	OTHER SLAG	SLAGGED CERAMICS (TOTAL)
SHABP_below ash	105,7	194,1		194,1		701,2
ShABP_above ash	452,6	1544,21	277,3	1258,1	8,81	2461,2
Hutfloor (floor)		29,8		29,8		
L1	23,1	62,6		62,6		33,7
L2	28,6	5,9		5,9		
L3&4						
SHAM1 L1	169	688	474	214,4		209
L2	758,1	836,5	465,5	371		665,8
L3		821,1	386,3	434,8		591,6
L4	125,8	694,4	418,1	276,3		707,9
L5	33,5	363,9	249,8	114,1		162,9
L6	34,9	271,9	172,3	99,6		509
L7		106,1		106,1		
SHATP1 L1	11	1438,6	599,4	789,6	49,6	130,6
L2		430,2		430,2		848,3
L3	4	562,1		562,1		
L4	59,1	583,9	433,9	150		16
L5	8,1	275,1	34,7	240,4		
L6&7	109,2	2618,4	1328	1209,6	80,8	881,8
SHAT1 and T2		197,3			197,3	133,6

The distribution of metallurgical debris from Test Pit 1 varied more significantly through the levels than that of Midden 1. While slags, slagged ceramics, ores and crucibles were represented throughout the midden, they appeared in greater quantities in levels 1 and 2, and again in levels 6 and 7. In contrast, there were less metallurgical remains in levels 3 to 5 (Table 7.2). Slags from all

levels were crushed, with some samples of flow slag. There was a significant quantity of metallurgical debris in Level 6 (Table 7.2), showing significant evidence of metalworking in the presence of large conglomerates of slagged ceramics and large furnace fragments (Fig. 7.8). The total weight of slag from Test Pit 1 was 5,9kg, making the density of the slag deposit $3,6\text{kg/m}^3$.



Figure 7.8 Large slagged ceramic conglomerates visible in the section and surface of Test Pit 1.

In the Burrow Pit excavation, there was a larger “above ash” metallurgical sample and smaller ash midden sample (Table 7.2). In both, there is evidence of copper production in the form of crushed slags with visible evidence of cupreous prills, carbonate ores, tuyères and furnace wall fragments slagged with a glassy red slag (Table 7.1). The total weight of slag from the Burrow Pit midden area was 1,7kg, resulting in a density of $0,67\text{kg/m}^3$.

Table 7.3 Metallic objects recovered from Shankare.

Artefact no	Provenance	Artefact type	Shape in section	Description
SHAMetal1	M1, F3 L1	Cupreous droplet	Spherical	Green cupreous stain
SHAMetal2	M1, E3 L1	Cupreous bead	Cylindrical	
SHAMetal3	M1, D2 L1	Cupreous droplet	Spherical	Greenish cupreous stain
SHAMetal4	M1, E3 L1	Iron fragment	Rusted flat	Rusted/corroded
SHAMetal5	M1, C2 L2	Cupreous wire	Rectangular in section	
SHAMetal6	M1, C2 L2	Iron rounded object	Round/cylindrical	Unknown original shape, rusted
SHAMetal7	M1, C2 L2	Iron fragment	Flat	Unknown original shape, rusted
SHAMetal8	M1, D2 L2	Cupreous droplet	Spherical	Greenish cupreous stain
SHAMetal9	M1, F2 L2	Cupreous wire	Rectangular in section	
SHAMetal10	M1, C3 L2	Cupreous wire	Spherical	
SHAMetal11	M1, C3 L4	Cupreous mass		Spherical and rounded
SHAMetal12	M1, D2 L4	Cupreous prill		Greenish cupreous stain
SHAMetal13	M1, E3 L4	Cupreous prill		Greenish cupreous stain
SHAMetal14	M1, D2 L4	Cupreous prill		Greenish cupreous stain
SHAMetal15	M1, D2 L4	Cupreous mass		Flat and rounded
SHAMetal16	M1, C2 L7	Cupreous prills		Greenish cupreous stain
SHAMetal17	SHATP1,L2	Iron fragment		Flat and rusted
SHAMetal18	BP ash	Cupreous wire/rod	Spherical/ rectangular	Pointed on one end but narrows on the other
SHAMetal19	SHAT1 L1	Small rounded wire	Rounded	
SHAMetal20	SHAT1 L1	Iron fragment		
SHAMetal21	SHAT1	Wire	Very thin wire	Slightly wound, black in colour
SHAMetal22	SHAT2	Cupreous droplet		Greenish cupreous stain
SHAMetal23	SHAT2	Small bead/ring		Small, wound not joined
SHAMetal24	SHAT2	Small bead/ring		Small, wound not joined
SHAMetal25	SHAT2	Small bead/ring		Small, wound not joined

In contrast with the midden excavations, small samples of metallurgical debris, mostly in the form of undiagnostic slags, were found on the surface and in all levels of the excavation of the Hut Floor

(Table 7.1 and 7.2). Crucible fragments, however, were recovered from all levels of the ash midden excavation underneath the hut floor. The total weight of slag from the Hut Floor excavation area was 0,09kg, making the density of slag in this deposit 0,06kg/m³.

The terrace excavations yielded small samples of undiagnostic slag and a small sample of tuyères. Finished metal objects differ from the early Kgopolwe context, with thin wound wires and fine wire rings potentially indicative of different metallurgical formation processes (Table 7.3). The total weight of slags from the terraced areas was 0,91kg, indicating a low density of slag scatters at 0,43kg/m³.

In summary, the identification of metal production and metalworking remains from Shankare shows that metals, primarily copper, were smelted, melted, and possibly forged on site. The excavations showed that the surface distribution of the material that covers the entire site is also reflected stratigraphically. The differences in the density of metallurgical remains between middens and specific production locales indicate a possible scheduling of activities on site. However, the fact that the quantity of material differs between layers, even within middens, further points to the possibly shifting nature of the location of homesteads around the site. This suggestion is confirmed by the fact that middens cover the northern flats of Shankare. Although the archaeometallurgical work that has been done at Shankare in the past is very robust, it was considered important to further analyse samples from different areas across the site. Accordingly, a limited archaeometallurgical study was used to further explore the processes represented by the remains.

7.4 Archaeometallurgical theory and approach

Archaeometallurgy is the study of pre-industrial metal production and use (Killick and Fenn 2012). It is an interdisciplinary method that combines techniques from earth and engineering sciences with those from archaeology. The main philosophy behind archaeometallurgy is that remains from high-temperature processes, such as slags, tuyères and finished objects, contain within their microstructures partial information about the processes that they have undergone (Bachmann 1982; Hauptman 2007; Rehren et al. 2007). By studying these remains in the laboratory, using

scientific techniques, it is possible to identify such processes. Because technology is as much social as it is technical, archaeometallurgy can inform on the social aspects of technical processes.

The sampling strategy adopted for this study was determined by the need to identify the different stages represented by the different remains—smelting, melting, casting, smithing and forging—and so to explore the full *chaîne opératoire* of metal production and metalworking and its distribution across the site. Particular attention was paid to the remains retrieved from the 10th–13th century context on the flat areas adjacent to the hill. Samples were selected based on the range of metal production and metalworking processes they potentially represented, and a sample from each excavation area (where present) was selected. Samples were weighed, sectioned and prepared following standard metallographic procedures. They were manually polished on water-cooled silicon carbide paper from course grit (180) to fine (1200). They were then polished with diamond paste (6 µm to ½ µm), using an oil-based lubricant.

For the purposes of this study, two methods of analysis were adopted. The first was reflected plane-polarised microscopy for polished blocks from the selected samples. Reflected plane-polarised microscopy makes it possible to characterise the phases making up the microstructure of the samples. A phase is a physically homogenous portion of a sample, which contains essential information about the activities that resulted in its formation (Scott 1991). With smelting slags, this method allows access to information about the efficiency of reduction and the possible temperatures that were reached, as well as an identification of the technological process involved. For example, it is known that copper-smelting slags are dominated by magnetite due to the nature of reduction, which unlike that of iron smelting does not promote the formation of wustite (Thondhlana et al. 2016; Killick et al. 2016). Furthermore, copper-smelting slags contain prills of metallic copper, and their relative abundance can (within limitations) be correlated to the efficiency of reduction. Similarly, the presence of oxides and carbonates in an ore is a relative indicator of its quality. Generally, when supported by high-quality pre-existing data, optical microscopy is sufficient for process identification. All the slags, ores and technical ceramics from Shankare were studied using an Olympus BX51 microscope with an attached camera, using reflected plane-polarised light with magnification ranging from 10x to 1000x.

While reflected plane-polarised microscopy was sufficient for the identification of the production-process stages represented by the different materials, a decision was made to study samples of

technical ceramics using a Scanning Electron Microscope with an attached Energy Dispersive Spectrometer (SEM-EDS). SEM-EDS is a high-resolution technique that can provide information on the chemical composition of materials. SEM-EDS is also a very useful technique for studying multi-component materials such as crucibles, since different areas of the materials can be analysed separately (Rehren and Pernicka 2008). Using SEM-EDS can also determine if the crucibles were used to process bronze, a copper-tin alloy whose origin in the region is associated with the Indian Ocean trading system (Miller 2010). Used in conjunction with optical microscopy, SEM-EDS also provides compositional data on previously identified phases and inclusions. Samples of technical ceramics, studied in the SEM, were coated in carbon using a sputter coater in the Electron Microscope Unit at the University of Cape Town and analysed using a Nova NanoSEM 230 with an attached Energy Dispersive Spectrometer. The study of technical ceramics followed established protocols (see Martín-Torres and Rehren 2014), with three readings taken and averaged to come up with the final total (normalised to 100%).

7.5 Archaeometallurgical results

7.5.1 Ores

A selection of potential ore samples was analysed under reflected plane-polarised light and photographed using a stereo microscope. These ores contained copper carbonates, in the form of green-blue malachite and azurite (Fig. 7.9). One ore sample consisted of magnetite with a vein of copper compounds (Fig. 7.9). These magnetite-copper ores are unique to the Phalaborwa geological complex (Miller et al. 2001; Miller and Killick 2004).

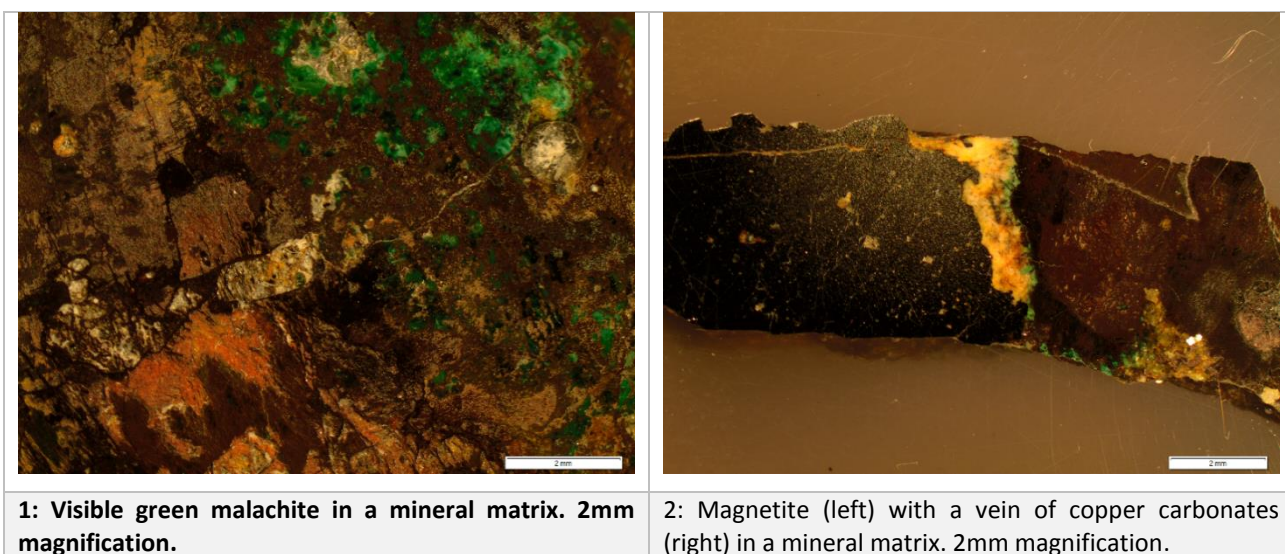


Figure 7.9 Photomicrographs showing two potential ore samples, ShaOre3 from Test Pit 1 (1) and ShaOre2 from the Burrow Pit ash midden (2).

7.5.2 Slags

Slags from the different excavation areas of Shankare were subjected to reflected plane-polarised light microscopy. Regardless of area, the slags showed a degree of uniformity in their microstructure. The studied samples confirm the presence of copper smelting across the site. All the analysed slags were from copper smelting, as shown by the presence of copper prills, interspersed with magnetite phases, embedded in a glassy matrix. Furthermore, fayalite minerals (Fig. 7.10) and copper droplets with exsolved iron and sulphide rims (Fig. 7.10.4) had a high frequency. Such a microstructure is consistent with copper smelting rather than smithing (Thondhlana 2013: 224). In addition, some of the studied slags contained partially reduced minerals in them, further confirming that they were derived from smelting. While the studied slag is consistent with copper smelting, previous research has established that iron was also smelted at Shankare (see Thondhlana 2013). Although copper- and iron-smelting slags are similar, copper slags contain copper prills and are often dominated by magnetite phases rather than iron oxides such as wustite (FeO), which would be present in iron smelting slags (Miller and Killick 2004: 34). Because of the co-occurrence of copper and iron in the ores from Phalaborwa (Fig. 7.9) it would have been

unfavourable for metal workers to expose copper ores to high temperatures (above 1083°C): the co-smelting of copper and iron produced an unusable copper-iron alloy with no utilitarian value (Miller et al. 2001).

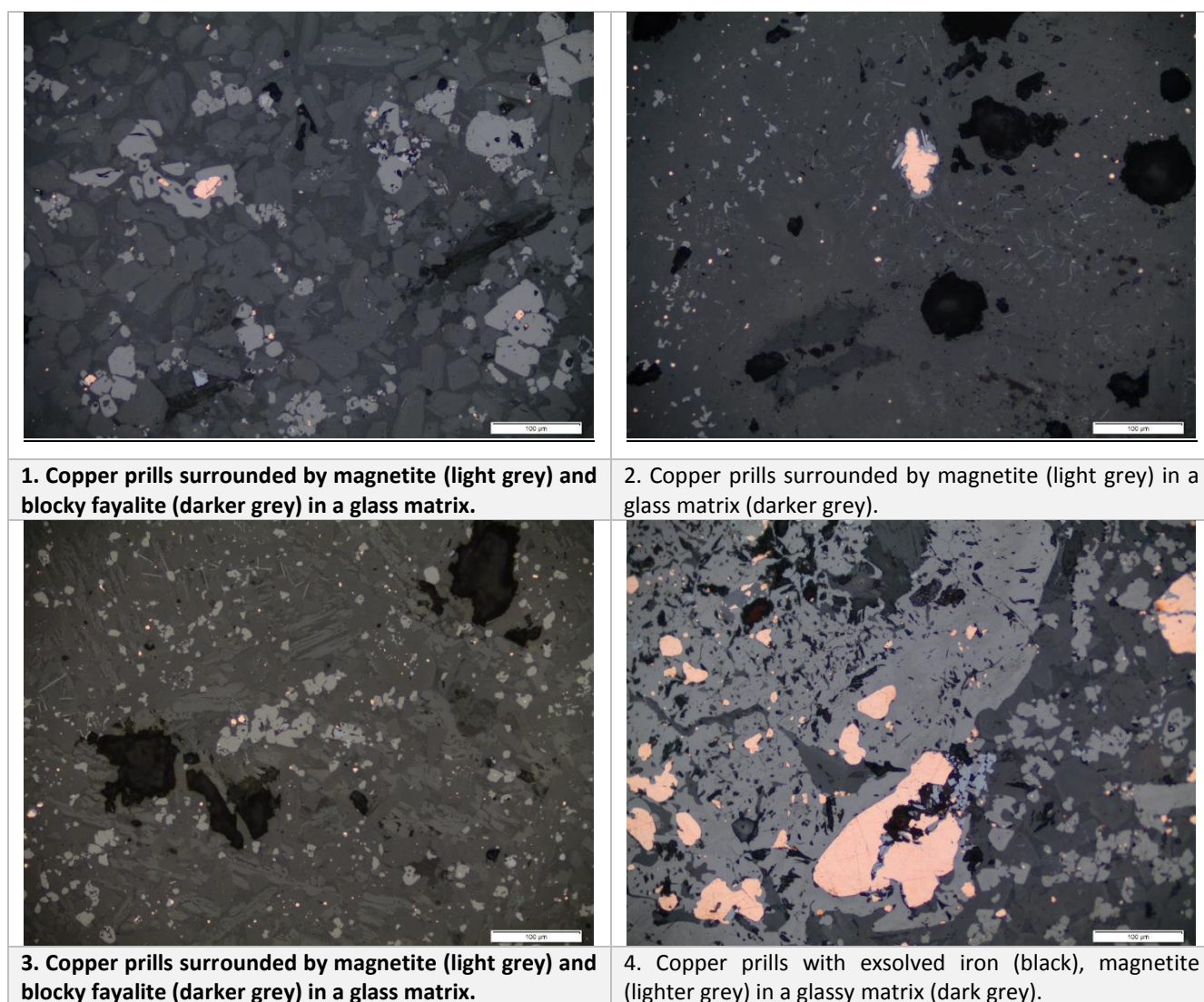


Figure 7.10 A selection of photomicrographs showing the different phases present in copper smelting slags. Slags come from Midden 1 level 5 (1), Test Pit 1 level 6 (2), the Burrow Pit ash midden (3) and Midden 1 level 3 (4).

7.5.3 Tuyères

Tuyères from Midden 1, Test Pit 1 and the Burrow Pit were selected for further analysis. The ceramic fabric of the tuyère samples ranged in colour from red to dark red. Large inclusions of quartz and feldspars were embedded in a clay matrix. In most cases, particularly in the slagged areas, quartz crystals showed evidence of thermal fracture. The slag attached to the tuyère ends had a microstructure similar to that of copper-smelting slags (Fig. 7.11). The glassy phases contained small copper droplets (Fig. 7.11), some of which contained exsolved iron (Fig. 7.11), indicating that high temperatures had been reached in a typical reducing environment. The processes represented point towards copper smelting.

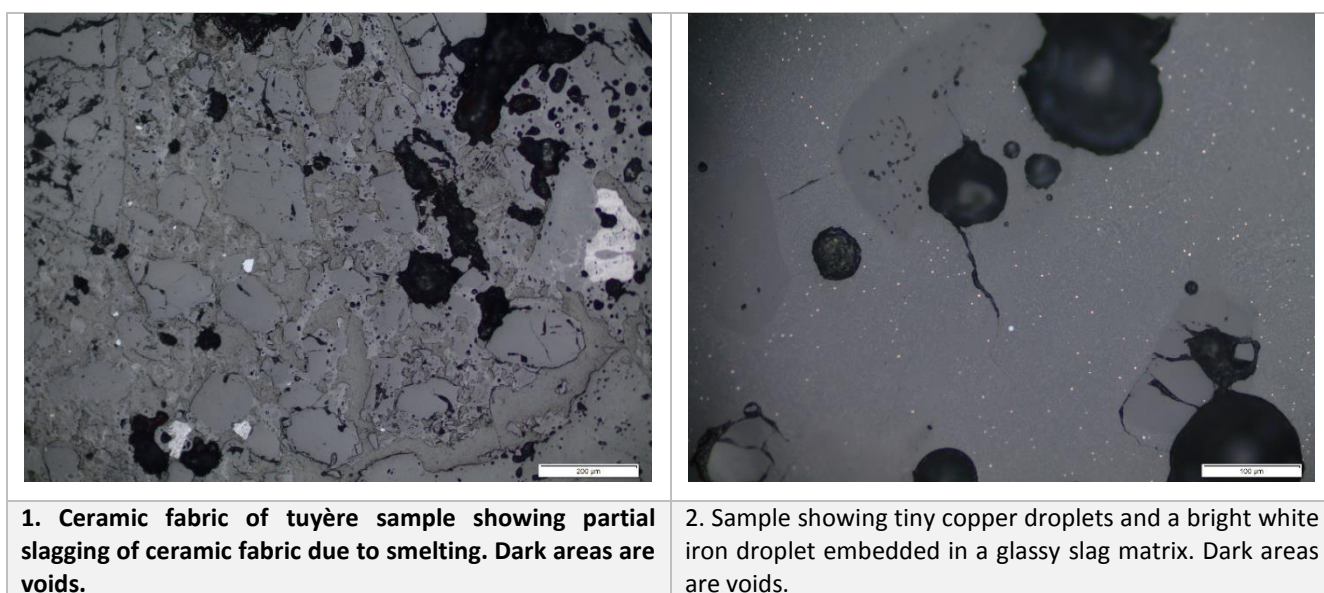


Figure 7.11 Photomicrographs of two tuyère fragments from Test Pit 1 level 4 (1) and the Burrow Pit ash midden (2).

7.5.4 Furnace wall

Samples of furnace-wall fragments from Midden 1, Test Pit 1 and the Burrow Pit were analysed under reflected plane-polarised light. Fractured quartz crystal inclusions in the ceramic fabric showed clear evidence of thermal stress. Copper droplets were visible in a glassy matrix of the attached slag (Fig. 7.12). Two furnace-wall samples were further studied in the SEM. Phases similar to those noted during reflected plane-polarised microscopy were observed. Compositional analysis using SEM-EDS revealed that the clay was alumina rich, with occasional crystals of ilmenite present in the fabric. As with the tuyères, the copper prills in the slagged areas contained sulphide inclusions (Fig. 7.12), consistent with the smelting of copper ores from the Lolwe ore body (Miller and Killick 2004; Thondhlana 2013).

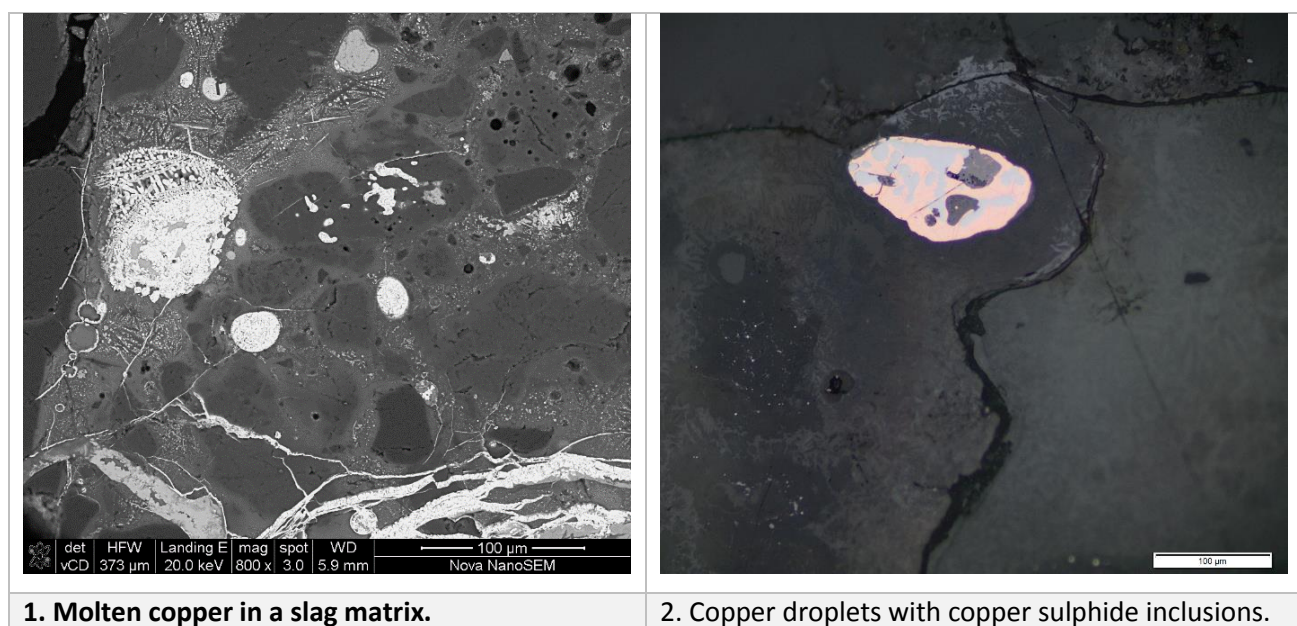


Figure 7.12 Photomicrographs of two furnace-wall fragments. Image 1, of SHAFW2 from Midden 1 level 5, was taken with the SEM. Image 2, SHAFW4, from Test Pit 1 level 6 was taken under plane-polarised light.

7.5.5 Crucibles

Crucible samples were initially studied using reflected plane-polarised microscopy. The texture of the fabric varied from coarse to fine grain. The observed similarities between domestic and crucible ceramics were further tested by comparing the composition of inclusions and the clay matrix using SEM-EDs. Analysis of the fabrics with the SEM revealed that the crucible clays were dominated by quartz and feldspars, with rounded to sub-rounded grains. Ilmenite (FeTiO_3) and zirconium (ZrO_2) were also present in the clay fabric of crucibles as inclusions. Ilmenite and zirconium are heavy minerals found along waterways and thus likely represent natural inclusions into the clay fabric. Chemically, the ceramic fabric was characterised by silica (42–61%), alumina (13–23%), iron oxide (4–30wt%), potash (K_2O) (2–6wt%), and lime (CaO) (2–8wt%) (Table 7.4). The average ratio of silica to alumina was 3. This composition is not representative of particularly refractory vessels, particularly given the relatively high presence of fluxing agents such as iron oxide, potash, and lime (Bayley and Rehren 2007).

Bulk readings of the crucible slag using SEM-EDS revealed that the chemical composition of crucible slags was dominated by silica (25–60wt%), alumina (0–18wt%), lime (CaO) (3–33wt%) and FeO (1–55 wt%) (Table 7.4). The presence of iron oxide (9–55wt%) in the slag is typical of the melting/smeltering of ferruginous copper, typical of the Phalaborwa ore geology. Copper was present in the slags in varying amounts (0–27wt%). The copper prills entrapped in the slags were very pure (97–100wt%), with small traces of iron in the form of iron oxide (FeO) (Table 7.4, Fig. 7.13). This finding contrasts with smelting slags and is consistent with the secondary melting and refining of copper in a relatively oxidising environment, such as an open clay crucible. No tin was detected, suggesting that no bronze was worked in the studied samples at Shankare.

7.5.6 Domestic ceramics

Samples of domestic pottery from different excavation levels of Midden 1 were selected for optical microscopy and two ceramic samples were subjected to further SEM analysis. Optically, ceramic fabrics were characterised by rounded to sub-rounded grains with quartz and feldspar inclusions

(Fig. 7.13). The composition of the ceramic fabric from SEM analysis conformed to the ranges found in the ceramic fabric from the crucibles (Table 7.4). This conformity underscores the similarity between the crucible and domestic ceramic fabrics. This observation has potentially interesting implications for considering the relationship between two technological practices: metallurgy and ceramic manufacture.

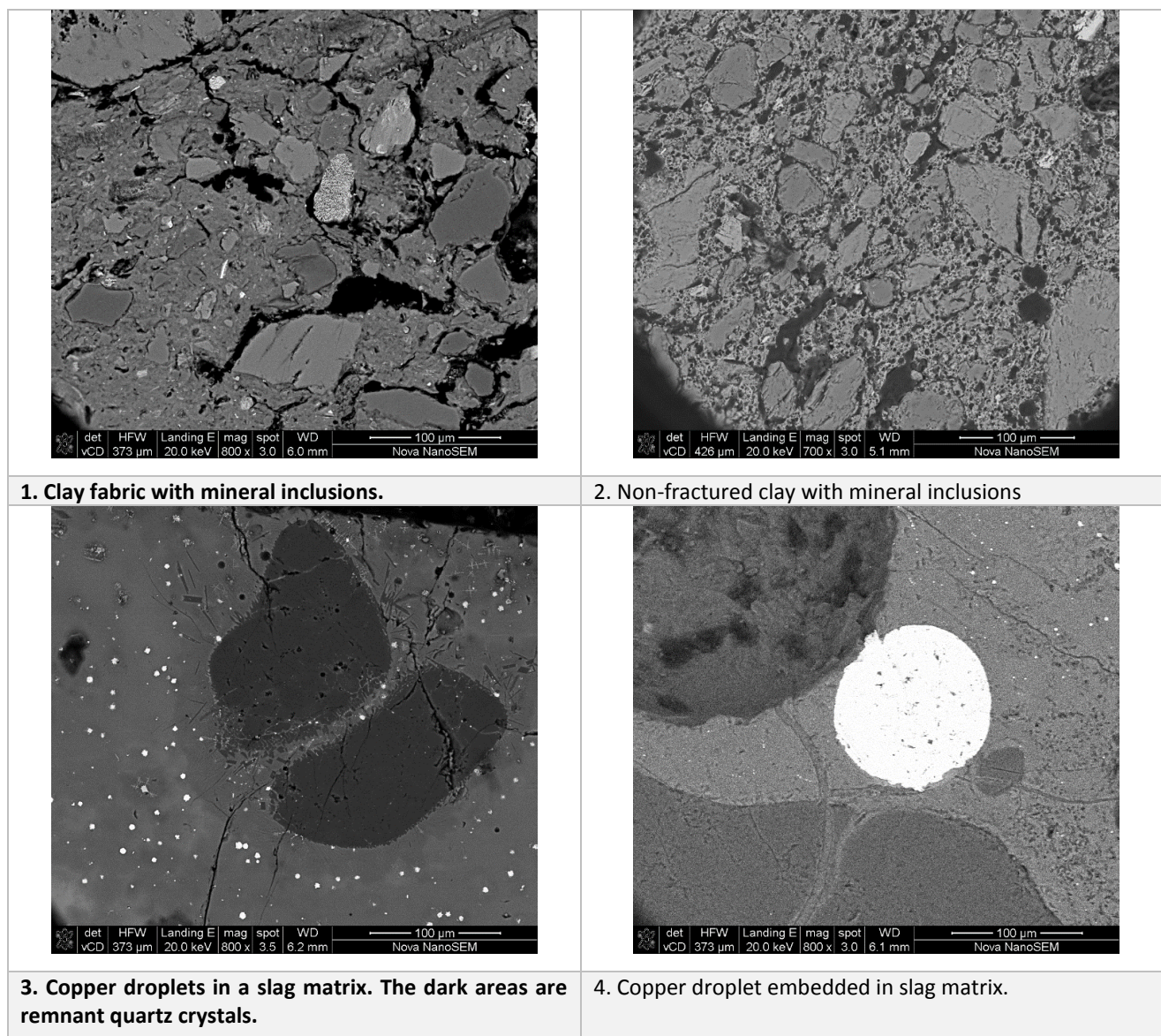


Figure 7.13 SEM images of SHA14, domestic pottery from Midden 1 level 2 (1); SHACR33, crucible ceramic fabric from Test Pit 1 level 2 (2); SHACR30, crucible slag from the Burrow Pit above ash (3); and SHACR6, crucible slag from Midden 1 level 2 (4).

Table 7.4 Average SEM-EDS results (of three area scans) of Shankare crucible, furnace wall and ceramic fragments. Results in wt% and normalised to 100%.

	Na ₂ O	Al ₂ O ₃	SiO ₂	K ₂ O	CaO	FeO	MgO	CuO	TiO ₂	Na ₂ O	P ₂ O ₅	Total
Furnace wall												
SHA FW1 Ceramic	0	0	74,17	0	1,54	8,59	1,54	14,16	0	0	0	100
Furnace wall slag												
SHA FW 2 Slag	3,12	17,01	56,99	19,12	1,60	1,51	0	0,65	0	0	0	100
SHA FW 1 Slag	3,52	17,96	47,54	6,25	2,69	19,89	0,65	0	1,50	0	0	100
Domestic ceramics												
SHA3 Ceramic	0	18,45	49,61	3,43	6,71	14,26	0	0	7,53	0	0	100
SHA14 Ceramic	0	18,11	55,45	4,22	3,86	14,57	0	0	0	3,79	0	100
Crucible ceramics												
SHACR33 Ceramic	4,64	19,95	50,51	5,53	3,49	15,88	0,00	0,00	0	0	0	100
SHACR13 Ceramic	0,00	17,75	44,61	0	4,96	29,57	3,11	0	0	0	0	100
SHA CR6 Ceramic	3,76	23,14	42,92	6,06	2,99	17,46	2,79	0,00	0,88	0	0	100
SHA CR21 Ceramic	0	14,53	43,56	4,38	8,06	24,94	3,20	0	1,33	0	0	100
SHA CR30 Ceramic	2,89	13,06	48,07	2,21	5,60	24,67	3,50	0	0	0	0	100
SHA CR4 Ceramic	0	16,96	64,56	3,91	2,20	10,52	1,85	0	0	0	0	100
SHA CR8 Ceramic	2,50	13,48	69,43	5,64		8,94	0	0	0	0	0	100
SHA CR34 Ceramic	2,90	19,74	64,60	3,24	2,02	7,51	0	0	0	0	0	100
SHA CR38 Ceramic	7,13	18,97	60,65	6,39	2,30	4,56	0	0	0	0	0	100
Crucible slag												
SHACR33 Slag	3,73	14,32	60,57	5,37	3,35	12,67	0,00	0,00	0	0	0	100
SHACR13 Slag	0,00	0,00	27,22	1,59	23,19	18,39	2,44	27,17	0	0	0	100
SHA CR 6 Slag	1,66	10,31	40,57	6,73	22,82	9,79	2,09	4,97	1,07	0	0	100
SHA CR 21 Slag	2,06	11,00	35,29	4,82	17,80	11,40	3,85	12,33	1,45	0	0	100
SHA CR 30 Slag	0	9,18	53,44	1,82	12,43	11,68	2,08	3,80	5,57	0	0	100

SHA CR 4 Slag	1,56	10,27	41,61	4,60	33,47	5,60	2,90	0	0	0	0	100
SHA CR 8 Slag	0	8,01	36,52	7,55	25,49	19,03	2,50	0	0	0,90	0	100
SHA CR 34 Slag	1,24	8,13	24,29	2,88	0	55,81	0	6,87	0	0	0,78	100
SHA CR 38 Slag	6,15	17,98	57,24	9,85	1,72	3,82	3,24	3,24				100
Metal droplets	Cu	Si	Fe	Ca	Total							
SHA CR 13 Prill	100,00	0	0	0	100							
SHA CR 6 Prill	98,21	1,79		0	100							
SHA CR 21 Prill	99,57	0	0,43	0	100							
SHA CR 30 Prill	97,81	0	2,19	0	100							
SHA CR 8 Prill	98,31	0	1,69	0	100							
SHA CR 38 Prill	97,31	1,89	0,41	0,39	100							

7.6 Discussion

Analysis of the metallurgical remains from Shankare revealed evidence of the full stages of the copper production cycle: namely, ore beneficiation, smelting, and melting. However, no finished copper and iron objects were invasively sampled for the purposes of this study. Copper ores were likely mined from nearby mines such as Lolwe. Dominated by copper minerals such as malachite and azurite in combination with magnetite, the ores from the excavated areas match a Palabora carbonatite complex origin. From the mines, ore was brought on site for beneficiation: that is, the separation of copper minerals from magnetite and other accessory minerals. Numerous grinding hollows or dolly holes were documented both from excavated areas and as surface finds on the northern side of Shankare. Furthermore, a fair amount of diorite hammerstones that litter different parts of the site would have been used in ore beneficiation and other stages of the copper working cycle. Once beneficiated, the ore was smelted in non-slag tapping-forced draft furnaces that were charcoal fuelled. No complete furnaces were recovered during these excavations, but two types of furnaces are known from the Phalaborwa area: (1) single tuyère port-domed furnaces, and (2) three tuyère port-triangular furnaces (Mason 1986; van der Merwe and Scully 1971; Miller et al. 2001). The fragments of furnace walls and broken tuyères analysed suggest that copper was reduced at the site.

Slag was recovered from all the excavated areas. Macroscopic and microscopic analyses revealed that most of the slags were derived from copper smelting. Given the high density of crushed slags (Table 7.2), it is likely that, upon completion of the smelts, the slag was broken down and crushed to retrieve the prills (Hauptmann 2007). These prills were consolidated in pottery crucibles to produce ingots. Combined optical and geochemical analysis of the crucible sherds revealed that the copper prills in the crucible slags were relatively pure, suggesting that the refining of iron-rich copper prills in crucibles was an important stage in the production of finished copper artefacts. The available evidence from 10th-13th century metallurgical remains from Phalaborwa is not conclusive enough to suggest whether distinctive ingot types such as those used in historical times were also used during this period (Miller et al. 2001; Miller 2010; Thondhlana 2013). It is possible that

refined copper was worked into small bangles (Miller 2010: 52). Alternatively, the smelting process produced, in addition to prills, small lumps of copper similar to those recovered from Midden 1. The recovery of plano-convex ingot forms from Kgopolwe (SPK3) indicates one potential ingot form. Plano-convex ingots were widely produced in southern Africa, particularly in smelting practices where the metal formed a puddle at the furnace base (Miller 2010: 47; Chirikure et al. 2015).

A detailed consideration of the distribution of proxies for smelting (ore, smelting slag, tuyères with heavily slagged ends) suggests that metal was worked across the site. However, while crucibles and slags were present in all excavated contexts, no tuyère and furnace-wall fragments were found during the Hut Floor midden excavations. It is important to take into account the density of metallurgical debris across the site. Comparatively, the density of metallurgical remains in the ash midden underlying the Hut Floor was slightly less than in the Burrow Pit and Midden 1. Test Pit 1, particularly levels 6 and 7, exhibited a higher density of metallurgical debris than other areas. The generally dispersed deposition of metalworking debris indicates that metalworking took place in all these spaces, although some areas show greater accumulation of metalworking debris than others.

Metal remains at Shankare were dispersed primarily in midden deposits, where they were intermixed with other domestic refuse. The lack of clear stratigraphic or spatial differentiation of these materials from other domestic refuse indicates no differential treatment. The production of copper in close association with domestic areas at Shankare is further documented by Pistorius (1989). Pistorius (1989: 239-241) documented a metalworking area with copper smelting and melting associated with two clay floors from the 11th–13th century (see Chapter 4). This area was located at the north-eastern base of Shankare Hill, close to Test Pits 1-4. Thondhlana (2013, Thondhlana et al. 2016) reconstructed a similar pattern of production, showing that the distribution of copper-working remains at Shankare was diffused within the domestic context of Midden 1. In contrast, iron-working remains, present in SHASH1, were found in a distinct locale, pointing to different patterns of production for the two metals.

The overall pattern of metalworking remains is indicative of a dispersed distribution of activity areas. These were possibly further interspersed with, or indeed part of, domestic

activity areas. This finding stands in contrast to the identification of nucleated workshop areas (Costin 1991: 25) that are commonly identified in non-domestic contexts. In terms of scale, the dispersed deposition of metalworking remains contrasts with the large slag piles/concentrations documented in other regions (see de Barros 1986; Robion-Brunner et al. 2013; Warnier and Fowler 1979; Humphries 2016). In these contexts huge slag mounds are often viewed as evidence of specialised and large-scale production. This differential speaks to differences in the way production was organised. It is certainly possible that, had the Shankare debris accumulated in one area, there would be larger mounds, and the dispersal across the site can be easily misconstrued to indicate less intense production. However, as Costin (1991: 30, 2001: 280) emphasises, there is no simple correlation between the density of production debris and the intensity or scale of production. This must be addressed through a consideration of the range of activities practiced by the producers at the site. Doing so provides a fuller indication of the intensity of production.

The indications of concentration of production at Shankare being localised to a domestic habitation site must be situated in relation to the immediate surrounding context. As indicated in chapter 5, Shankare represents evidence of a bounded habitation site. It is not the only such site in this region: Kgopolwe and Nagome, the two other sites identified in the Phalaborwa region have the same cultural sequence as Shankare and possess evidence of habitation and metal working debris in domestic contexts. In terms of assessing concentration of production (Costin 1991: 27) the survey and archaeological record from the Phalaborwa region (Chapter 4) indicates that the only evidence of production in the 10-13th century period was localised to domestic contexts similar to Shankare.

While the evidence of metal production at Shankare is plentiful, excavations yielded relatively little traces of metal consumption. Copper wires recovered from Shankare do not appear to have been drawn but were likely worked, using a combination of hot and cold working, into various shapes. While wire drawing was documented from many sites historically in the Lowveld, undertaken with iron drawing plates (Steel 1975), the antiquity and archaeological context of this technology is unknown. However, wire drawing appears in central and southern Africa in the second millennium AD (Herbert 1984; Fagan 1969). Drawn wire was often twisted around fibrous cores to form tightly wound bangles, many of

which have been recovered from second millennium sites (Oddy 1984; Miller 2001). Other objects were either hammered through cycles of hot and cold working or cast to produce artefacts based on predetermined shapes. Dispersed as it is, the production debris at Shankare, when considered temporally, does not equate to the evidence of localised consumption. This raises the likelihood that production of metal fed into wider distribution networks. The following chapters consider the possible variety of items that may have been exchanged for some of these goods.

One of the most important aspects in the organisation of technology is the division of labour. In southern Africa, technologies such as metallurgy and pottery making are traditionally gendered as male or female (Herbert 1993, but see Chirikure 2015 for a recent discussion). Thus pottery making is considered the domain of women while metallurgy was reserved for men. These observations have been extended, often uncritically, into the deeper archaeological past. The similarity in pottery and crucibles from Shankare provides an important opportunity to further reflect on the boundaries in gendered participation in metallurgy and pottery. Analysis of the ceramic fabric from crucibles and domestic pottery indicates that crucibles were made from the same clay as domestic pottery. This indicates that domestic pottery was used in the process of copper production. Thondhlana (2013) documented the presence of slag temper in samples of pottery crucibles from Shankare, potentially indicating that these were special purpose vessels. Furthermore Pistorius' (1989) excavations of a copper processing locale on the northwestern flats of the hill recovered a small, purpose made clay crucible. Given that no analyses were provided it is difficult to tell if it was made using the same clay as pottery or furnaces and tuyères. However, it indicates that in terms of technological choices, metalworkers would select receptacles from the domain of pottery and in some cases used specialised vessels. This indicates interaction, feedback and cross-craft overlap between metal workers and pottery makers. These technological overlaps further indicate the presence of 'female authored material culture' (pottery) in what is conventional considered a male technological process.

The location of metal production in domestic contexts shows further variability in the spatial organisation of metal production in relation to space. Traditionally, it has been argued that primary metal production took place away from settlements because of associated taboos

surrounding metallurgy (Huffman 1990, 1996, 2001, however see Maggs 1992; Greenfield and Miller 2004; Chirikure 2007 for an alternative view). An extension of this view also posited that copper (female) and iron (male), were differently 'gendered' (Herbert 1993; Huffman 2007). The archaeology of Shankare has shown that as far as the organisation of production is concerned, there was a close association between smelting precincts and domestic contexts, and between pottery making and metallurgy. This provides evidence of cross-crafting technological interaction, and suggests that many boundaries were negotiated, crossed and possibly re-crossed during technological activities. It further indicates, on the basis of the spatiality of production and the evidence of technological interaction, the likelihood of the participation of labour and input of both men and women.

7.7 Conclusion

Excavations and analysis of the metallurgical remains from Shankare, when combined with previous research, provides evidence that the site was a locale of copper and, to a lesser extent, iron production. The scale of production suggests that production was beyond local consumption, potentially indicating that metal production played an important role in the political economy of Shankare and the Phalaborwa region. However, to explore this further the organisation of metal production must also be addressed in conjunction with a study of other activities taking place at the site. In doing so one can begin to assess the relationships between technology and the scheduling of activities for occupants of the site on a community scale. It is to these other activities that the following chapters turn.

Chapter Eight:

Complementary crafting, cotton and shell beads at Shankare

“It is usually straightforward to identify how material things serve human needs and goals. For example prehistoric Europeans began using Neolithic foods, axes, pots, or monuments because they needed to eat, because they used them for strategic social reasons, or because they believed in the ancestral landscapes such things helped create. But it is more difficult to identify how, conversely, material things structure human lives.” (Robb 2013: 672).

8.1 Introduction

Shell-bead manufacture and cotton production are complementary craft activities that took place at Shankare. Cloth does not preserve well in the archaeological record, unless it is preserved in contact with metal, but clay spindle whorls, such as those found at Shankare, indicate that cotton, most likely indigenous cotton plants from species of the genus *Gossypium*, was processed. Similarly, the presence of ostrich-eggshell fragments and beads, along with the giant land snail (*Achatina* sp.) and freshwater mussels (*Unionidae* sp.), provided the most common shell materials used for the manufacture of beads on farmer sites in southern Africa (Ward and Maggs 1998), and indicate that shell processing and bead manufacture were taking place at Shankare. Of interest is the relationship between the crafting of beads and cotton and other technologies at Shankare. Technologies such as cloth production required scheduling that may have influenced or been influenced by other crafts (Costin 2013). Archaeological records, in the form of spindle whorls, indicate that cloth production in southern Africa was practised from at least the 13th century onwards. This technology is thought to have been transferred from contact with the East African coast, and in turn the wider Indian Ocean world (Huffman 1971; Davison and Harries 1980). The emergence of the local textile industry is also of interest when considering crafting and innovation in the regional political economy. Furthermore, the transfer of this technology

into the interior and specifically its employment by the inhabitants of Shankare has potential implications for understanding the context of Shankare in relation to the wider political economy.

8.2 Shankare spindle whorls

Five spindle whorls are represented in the Shankare sample, all associated with the 10th- to 13th-century Kgopolwe occupation of the site (Table 8.1 and Fig. 8.1). One sample was composed of two fragments (SHA.CD.2 and SHA.CD.4) that refitted together (Fig. 8.2). Both fragments came from the same square, separated by 20cm of deposit. The spindle whorls were all recovered from midden contexts. Preliminary analysis of the ceramic fabric indicates that the spindle whorls appear to have been made of recycled domestic pottery.

Table 8.1 Spindle whorls from Shankare.

Sample No.	Provenance	Shape	Perforation	Decoration	Diameter (mm)	Radius (mm)	Thickness (mm)
SHA.CD.1	SHAM1D2L2	Incomplete	Yes	Undecorated	NA	24,8	11,78
SHA.CD.2	SHAM1C2L2	Incomplete	Yes	Graphite burnishing on one side and ochre on the other side.		23,17	6,98
SHA.CD.3	SHAM1C3L3	Incomplete	Yes	Graphite burnishing on both sides.	52	23,94	9,67
SHA.CD.4	SHAM1C2L4	Incomplete	Yes	Graphite burnishing on one side and ochre on the other side.	Combined with CD.2 is 59	23,76	6,88
SHA.CD.5	SHAM1D3L4	Complete disk	No	Not visible	31,81	NA	7,25
SHA.CD.6	SHABPASHD1	Incomplete	Yes	Undecorated	NA	28,11	9



Figure 8.1 Spindle whorls from Shankare (Scale in cm).



Figure 8.2 A semi-complete spindle whorl made up of samples SHA.CD.2 and SHA.CD.4 (Scale in cm).

8.3 The history and archaeology of cotton production in southern Africa

Little is known of the introduction, spread and incorporation of the craft of textile production in southern Africa. No spindle whorls have been documented in Early Iron Age sites and the earliest spindle whorls are conventionally thought to have appeared in the archaeological record from the 13th century at Mapungubwe (Huffman 1971). On the East African coast, spindle whorls are present at a number of Swahili towns from the 11th century (Wynne-Jones 2016: 49). The correlation between the appearance of spindle whorls and increased evidence for trade with the Indian Ocean rim has led to the widely held hypothesis that the technology was transferred through contact with the East African coast, and in turn the wider Indian Ocean world (Huffman 1971; Davison and Harries 1980). However, how the technology of textile production was transferred from the coast to inland communities, and then became incorporated into local industries alongside imported textiles, remains relatively underexplored and undertheorised.

Historical, ethnographic and written records confirm that locally manufactured textiles were produced in southern Africa pre-colonially, as far south as the South African Lowveld, and including the region of Phalaborwa (Earthy 1933; Junod 1927; Stayt 1931a; Davison and Harries 1980; Davison 1984). Portuguese historical records from the 15th and 16th centuries record local communities wearing cotton cloth, and observed the presence of a local textile industry on the Mozambican coast and Zimbabwean interior—an industry that had reportedly been established prior to Portuguese contact (Freeman-Grenville 1962; Axelson 1973). Similarly, European merchants noted hand-woven cloth worn by both men and women in the Delagoa Bay region in the 18th and 19th centuries (Huffman 1971; Davison and Harries 1980). The earliest-preserved locally made textiles in southern Africa come from burials at Ingombe Ilede, dated to the 14th and 15th century (Fagan et al. 1969). These consisted of bark cloth, coarse and fine cotton cloth, and also fragments of what appear to be imported cloth (Bushnell 1969). Fragments of cloth have also been preserved at the Dhlo Dhlo, Khami, Dambarare, Mtilikwe, and Komani sites (Huffman 1971: 2).

A wide range of fibres were historically used to make different cloths, with cotton and bark cloth most prominent, as well as other types of plant fibres employed (Davison and Harries

1980: 20). Bark cloth was historically produced and exchanged within the Delagoa Bay region and traded more widely (Junod 1927; Earthy 1933). It was also produced and used in clothing and as blankets in many regions of Zimbabwe (Ellert 1984).

In contrast to the technology used in bark fibre production, spindle whorls were likely used with single-heddle horizontal ground looms, a technique used to produce cotton textiles historically in southern Africa (Davison and Harries 1980: 177). Different species of cotton of the genus *Gossypium* were woven, with indigenous cotton (*Gossypium herbaceum* var. *africanum*) (which today grows wild in many regions of southern Africa) a likely candidate (Fig. 8.3). Within the Lowveld, Stayt (1931a: 58) recorded the tradition of producing cotton cloth (*masila*) from the seeds of the *mudala* tree, a species of wild cotton. Closer to Phalaborwa, Davison (1984) recorded the Lovedu tradition of weaving wild cotton. According to Davison (1984), wild cotton (*Gossypium herbaceum* var. *africanum*) was spun by men and then woven into thread that was then used by women to plait necklaces or girdles. Krige (1937b) noted that spindles with ceramic whorls were still used in the Lowveld in the 1930s (Fig. 8.4).



Figure 8.3 Wild cotton (*Gossypium* sp) growing on Shankare Hill.

Cotton could be harvested seasonally from cotton plantations, as in the case of Zambezi Valley cultivators, or from wild plants. The lower Zambezi Valley in particular was noted as being an area of intense cotton-textile (*machira*) production, from at least the 16th century onwards (Davison and Harries 1980). The materials were thick, strong, and often used undyed as a white fabric, although locally manufactured dyes were also utilised (Davison and Harries 1980). Zambezi Valley cotton producers traded their textiles with communities to the south, and with others to the east (Mudenge 1988: 187). Similarly, communities along the Save river (south-central Zimbabwe) historically possessed their own textile industry (Junod 1927 Part II: 98, Ruwita 1999). In particular areas, such as the Zambezi area, locally manufactured cloth was an important item of trade over a wide area (Davison and Harries 1980: 187). In the Mutapa and Torwa-Changamire states on the Zimbabwean plateau, cloth was also used in tribute, along with other items (Mudenge 1988).

8.4 Organisation of production

The historical and ethnographic record from southern Africa points to variation in the organisation of cloth production. Particular regions and communities, such as those in the Zambezi Valley and along the Save River, were known to have harvested cotton from plantations and produced textiles in quantities that were then traded. However, in many regions, cotton production was carried out on a small scale, using a few bushes from each homestead (Ruwita 1999: 9). In the Lowveld, there is no evidence of the large-scale cultivation of cotton, though it does grow wild in many areas (Davison and Harries 1980). Most ethnographic records point towards men weaving, although this trend may have varied through time, with both men and women spinning and harvesting cotton (Stayt 1931a; Davison and Harries 1980; Davison 1984; Ruwita 1999). Furthermore cotton planting and harvesting was a seasonally scheduled activity, taking place in the summer months (Ruwita 1999).

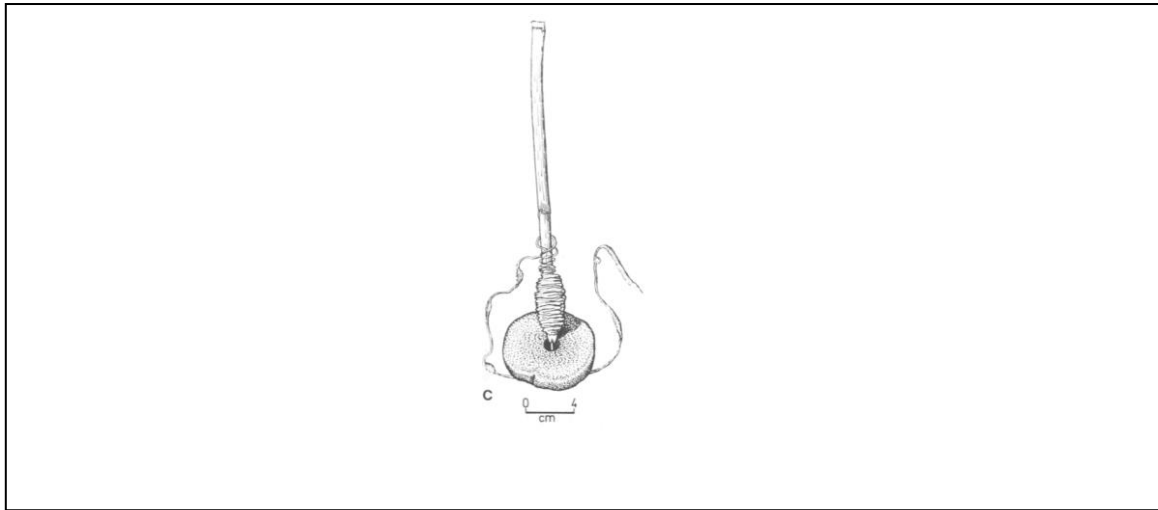


Figure 8.4 A spindle whorl, from Davison (1984: 62).

8.5 Imported cloth

Cloth was also imported into the southern African region, and indeed appears to have been one of the main imports after glass beads documented in the historical records of the European merchants on the East African coast (Axelson 1973; Newitt 1995). Early Portuguese traders noted that cloth had been previously imported into southern Africa by Swahili traders via ports such as Sofala (Huffman 1971: 13), and fragments of imported cloth in the Ingombe Ilede burials (dated to the 14th-15th centuries) confirm this. Fragments of what appear to be Indian tie-dyed cloth in the Ingombe Ilede burials remain the earliest evidence of imported cloth in the region (Bushnell 1969).

Cloth was an important commodity in trade around the Indian Ocean rim, and the large-scale Indian textile industry in particular is thought to have swamped the textile industries around the Indian Ocean rim regions from the 15th century (Clarence-Smith 2005). However, imported cloth does not seem to have supplanted the local industry in southern Africa, and instead seems to have stimulated production (Clarence-Smith 2005). Portuguese

merchants traded in locally manufactured cloth in the interior in conjunction with imported cloth that they brought from India (Davison and Harries 1980: 187). Imported cloth was also used in conjunction with local cotton, and in the 16th century the “unthreading” of imported cloth (in which the unthread cloth was woven together with locally made textiles into new garments) was said to be common practice for merchants on the Mozambican coast (Freeman-Grenville 1962: 128). Portuguese records also note that some Mutapa rulers on the northern Zimbabwean plateau preferred to wear only locally produced cloth (Axelson 1973). The success of the local industry was such that it was considered a threat to the imported cloth trade of the Portuguese, who made unsuccessful attempts to curb its production (Clarence-Smith 2005).

Cloth, brass and beads were three of the most important imports European merchants brought to Delagoa Bay from the 1700s (Junod 1927; Smith 1970: 179, Harries 1994: 15). This cloth was traded across the Lowveld and widely in the interior (Smith 1970). The Portuguese term “peça”, used to refer to a measure of cloth two fathoms in length, was incorporated into a number of dialects in the area east of the Lebombo Mountains (Harries 1994: 15). Davison (1984) noted that particular cloths, such as the salempore and morina cloths, were popular for long periods of the 20th century in the Lovedu region. In the 19th century, the massive structural changes wrought by colonisation had an unprecedented effect on the local textile industry. This effect was also exacerbated by the mass production of textiles in Europe and India from the 1800s onwards (Davison and Harries 1980). By the mid-19th century, industrially produced textiles became widely available in shops, stores and trading networks in many regions of southern Africa, and together with the shift towards a cash-based economy contributed to the supplanting of the local production of local textiles. By the late 19th century, there was also a more widespread adoption of European clothing by southern African communities, due to contact with Trekkers and other settlers, and trade from the Cape colony (Dymond 2011). By the end of the 19th century, imported cloth had eclipsed the local market, and only in some places, such as Zambezi valley, did traditional cloth production and trade continue (Davison and Harries 1980).

8.6 Uses and values of cloth

The historical and ethnographic record brings to light some of the various uses and values associated with cloth in the more recent past. Cotton was used in conjunction with a large amount of other materials, such as leather and bark cloth. Cloth was an important item of clothing in some communities, used to make skirts and aprons or draped over the body (Davison and Harries 1980; Ellert 1984). It was also used to make more durable items such as bags. Some cloth was used to make necklaces, head rings and other ornaments such as women's waist belts (Davison 1984; Ruwita 1999). Cotton was used to string beads, such as plaited necklaces used to string snuff boxes (Davison 1984). Cloth was also used in exchanges, and was at times associated with a standard value, as documented particularly in northern Zimbabwe (Davison and Harries 1980; Ruwita 1999: 30). Within the Lowveld region, old pieces of cloth were often kept as heirlooms in the late 19th and early 20th centuries (Junod 1927; Stayt 1931a) and were considered to have special properties, much like inalienable objects (cf. Weiner 1985). In the early 20th century, Earthy (1933) documented the historic use of bark cloth in the skirts worn by Valenge women in southern Mozambique, particularly for dancing and initiation rituals (Earthy 1933: 124). These skirts were adorned with beads and prepared with ochre. Earthy also noted that rolls of material were used for *akulobola* in the past, and that cloth was interchangeable with money, or with baskets of field produce.

Historical records from the 19th and early 20th centuries in southern Africa suggest that the use of imported cloth was selective (not all communities chose to use it), and that fashions in cloth were particular and fluctuating (Dymond 2011). Particular cloths were favoured in different areas, and for different functions. Imported cloth was incorporated into Tsonga dress, such as Salempore cloth from India, and used in making skirts. Junod, remarking on the cloth available in 1892 in a "Banyan shop" in the Delagoa Bay region, noted that the most popular cloths were white, red, and black with white stripes. A navy blue and red cloth was especially used for mourning, and a dark blue cloth with white flowers was used for courting (Junod 1927 Part II: 91). The copper miners of Musina historically traded copper

and other items for a certain type of black cloth that they chose to wear (Mamadi 1940: 15, 48).

8.7 Archaeological implications of the Shankare spindle whorl sample

There is little published information on the prevalence of spindle whorls at Iron Age sites within the early second millennium in southern Africa. Two fragments of spindle whorls were recovered from excavations on the northern terrace midden deposit on Leokwe Hill in the Shashe-Limpopo region (Calabrese 2007: 241). The date for their context of recovery is associated with the turn of the 13th century. Fragments of spindle whorls were also recovered from Skutwater (AD 1225–1285) (van Ewyk 1987: 58), and 187 spindle whorls were recovered from Mutamba (AD 1047–1280 AD) (Antonites 2012: 232), making it a large sample. Antonites also noted that a small number of spindle whorls (11 and 8) were documented at other 13th-century sites in the Soutpansberg region, including Prince's Hill and Vhunyela.

The total number of spindle whorls from Mapungubwe is unknown, but it is estimated at around 30 (Antonites 2012: 237). Antonites (2012: 236–238) compared spindle whorls across the Shashe-Limpopo sites and Mutamba, exploring the relative standardisation of spindle-whorl sizes, which in turn may have implications for the standardisation of the technology and the method of production. His findings suggest a relative standardisation in overall size and perforation of spindle whorls, with those from sites in the Shashe-Limpopo falling within the range of the Mutamba assemblage. Although the Shankare sample is small, the diameter of two measurable spindle whorls, at 52mm and 59mm, fits within the size variation of those from the Shashe-Limpopo region.

The sample of spindle whorls recovered at Shankare provides an interesting layer to explorations of cloth production in the Iron Age and offers potential insights into the introduction and spread of this technology in southern Africa. The small number of spindle whorls at Shankare indicates that the technology associated with the production of cotton may have been practised on a small homestead scale in the early period of its introduction

into southern Africa. The use of spindle whorls at Shankare, and the introduction of the technology within a homestead production unit also focused on copper, is of interest in relation to the scheduling of different activities at the site. Indeed it suggests that this technology may likely have fitted into, and complemented, other craft activities, possibly on a part-time or low-intensity scale. The historical analogy of part-time small-scale production in the Lowveld may indicate a similar pattern to the one present in the archaeological context at Shankare. Similarly the indication that cotton production and harvesting was a seasonal activity limited to summer months may also have influenced the scheduling of this activity in the deeper past.

It is as yet unclear how cloth-production activities related to the division of labour and gender relations within households and communities at Shankare. As Costin (2013) noted, archaeological reconstructions of the organisation of textile production rely heavily on ethnographic parallels. In southern Africa, as noted above, cloth was often spun by men, yet women further processed the cotton and cloth items, and the production of clothing and textiles had many composite stages that involved both men and women. How the division of labour was organised in the deeper past remains to be explored in greater depth. However, the presence of spindle whorls in domestic contexts suggests that it was likely an activity that took place within community settings.

While it has been suggested that cloth was likely a “common craft” within elite sites from the 13th century (Huffman 1971), evidence of the technology of weaving at Shankare suggests that it appeared in earlier, pre-ruin ‘commoner’ homesteads and context prior to its adoption by communities occupying stonewalled sites on the Zimbabwe plateau. This finding possibly unsettles the assumed directionality of earlier models, which proposed that the technology/innovation first appeared at Mapungubwe and then spread from there to adjacent elite sites in the northern regions. Instead, it may be the case that the introduction and spreading of cotton spinning as a technology, as well as its uptake by interior communities, were non-directional and varied. Critical engagement with the spatiality, the tempo and chronology of the introduction and spread of innovations (Gamble 2007; Robb 2013) often indicates the variable ways in which new materials were used and incorporated

by preindustrial communities. This in turn has wider implications for the modelling of the political economy of this period, an issue addressed in detail in Chapter 11.

The historical records indicate that the use and valuation of cloth was deeply interwoven with and embedded in local social practice, from adornment to heirloom objects. The literal rethreading of imported cloth with locally produced cloth along the Mozambican coast reveals the entanglement of imported items with locally produced items and by extension value systems. These observations in turn provide an important nuance for engaging with imports and the spread of the innovation of cloth making in the archaeological record.

8.8 Faunal remains and food procurement strategies

Food-procurement strategies, from agriculture to domestic-stock-keeping and hunting, would have been important activities that required scheduling alongside the crafting activities performed by the occupants of Shankare. Faunal remains were recovered from all domestic-midden contexts at Shankare, and from the surface of the Hut Floor area. These were not the focus of the current thesis, but the faunal sample (Appendix 2) nevertheless provides some preliminary indications of food-procurement strategies at Shankare. The faunal analysis was conducted by Michelle House and followed methods established by Brain (1974), Voigt (1983) and Plug (1989). Fauna was separated into identifiable and non-identifiable skeletal parts. Identifiable bones were, where possible, identified to species level. Species identification was facilitated by the use of the University of Cape Town archaeology department's comparative collection. The number of specimens (NISP), quantifiable skeletal parts (QSP) and the Minimum number of Individuals (MNI) was used to quantify the faunal collection. Following Brain (1974) identifiable bones that could not be ascribed to a species category were placed in broader categories, such as Bovid size classes. Bovid Class 1 (Bov 1) refers to small antelope (0-23kg), including bovids such as the common duiker (*Sylvicapra grimmia*). Bovid Class 2 (Bov II) includes medium sized (23-84kg) antelope such as reedbuck (*Redunca arundinum*). Bovid Class 3 (Bov III) include large bovids (84-

296kg) such as cows (*Bos taurus*). Bovid Class 4 (Bov IV) indicate very large bovids (>296kg), such as eland (*Taurotragus oryx*). Analysis was recorded by area and stratigraphic layer.

The faunal remains recovered from Shankare are dominated by wild species, with few domesticated species represented. This pattern is not peculiar to Shankare, and was observed by Plug and Pistorius (1999) in their analysis of faunal remains from other Phalaborwa sites. Plug and Pistorius (1999: 180) suggested that the pattern further corroborated historical data that indicates that the Lowveld was not a well-suited region for cattle-keeping (see Chapter 4). Recent studies of big-game hunters in the Early Iron Age (Grody 2016) reveal that certain communities may have deliberately exploited big-game hunting in the Lowveld region, indicating a degree of intensification and specialisation in large wild game hunting strategies. It is clear from the faunal samples from Shankare that hunted animals formed a considerable portion of the diet.

8.9 Shell processing and bead making at Shankare

Ostrich eggshell, freshwater-mussel shells (*Unionidae* sp.) and achatina (giant land snail) shells (*Achatina* sp.- giant land snails) are present in the Shankare sample, in all midden contexts (Table 8.2), in the form of shell fragments (Fig. 8.5). Achatina shells are relatively common in Iron Age assemblages, and have been documented in most of the faunal studies of the Phalaborwa complex (Plug and Pistorius 1999). Achatina beads were manufactured and utilised by farming communities from the Early Iron Age onwards (Ward and Maggs 1998: 408). Land snails were also used as food (Plug 1989), as tools, and as raw materials (Voigt 1983; Ward and Maggs 1988). However, the presence of achatina shells must be treated with caution in archaeological deposits, for land snails may have found their way into the deposit naturally, burrowing into the soft ashy soil.

Table 8.2 The distribution of shell finds from Shankare. 'X' indicates presence.

	SHAM1							SHATP1							SHA BP abov e	SHA BP belo w	SHA Hut Floor				SHA T1 &2
	L1	L2	L3	L4	L5	L6	L7	L1	L2	L3	L4	L5	L6				Flo or	L1	L2	L3& 4	
Material																					
Freshwater mussel shells	x	x	x	x	x	x	x	x	x		x	x	x	x	x			x	x	x	x
Achatina shells	x	x	x	x	x	x		x	x		x		x	x	x		x	x			x

Aspatharia sp., freshwater mussel, are also documented by Plug and Pistorius (1999) in their analysis of faunal remains from sites in Phalaborwa. A number of these shells had polished edges, suggesting they were used as a smoothing device, possibly (as is ethnographically documented) in the preparation of the surface of clay vessels (Fredriksen 2012). Voigt (1983: 120) noted that these species in the Mapungubwe collection also appear to have ground-down edges and may have been used in the making and burnishing of pots. The same species of shell is still used by potters in the Phalaborwa region to smooth their vessels once they have been formed and shaped (Fig. 8.6).



Figure 8.5 An achatina shell (far left) and freshwater mussel shells (the three on the right) from Shankare.



Figure 8.6 Tools used by a potter in Giyani, 80km north of Phalaborwa. Note the freshwater mussel shell on top of a recycled piece of pottery.

Of the samples recovered from the Shankare excavations, none show clear evidence of modification. However, this does not preclude their use in pottery production.

8.10 Shell beads from Shankare

In the present study, 319 shell beads were recovered, of which all were made from ostrich eggshell. No evidence of achatina or freshwater mussel shell beads was recovered from the site. Given the lack of evidence of bead processing, it does not seem that the presence of these shells at Shankare had anything to do with bead manufacture. It must be noted, however, that identifying ostrich eggshell versus achatina beads is difficult, particularly in the case of burnt or charred specimens, and it is possible that some beads may have been misidentified. In addition, 4 ostrich eggshell blanks (Fig. 8.6) were recovered from Midden 1. In terms of bead distribution at the site, 280 (87,7%) of the beads were recovered from Midden 1, 12 (3.76%) from the Burrow Pit Midden, 8 (2.5%) beads from the Hut Floor—of which one came from the floor surface and 7 from the midden underlying the Hut Floor—13 from Test Pit 1 (4.1%), 3 (0.9%) from Test Pit 2, 2 (0.6%) from Test Pit 4, and only 1 (0.3%) from the terrace excavations (Terrace 2). Shell beads were categorised according to the classification system depicted below (Table 8.3).

Table 8.3 Shell bead categories from Shankare.

1A: Complete and uncharred bead	1B: Complete and charred	1C: Complete and ochred
2A: Broken and uncharred	2B: Broken and charred	2C: Broken and ochred
3A: Incomplete rough out, uncharred	3B: Incomplete rough out, charred	3C: Incomplete rough out, ochred
4A: Broken incomplete rough out, uncharred	4B: Broken incomplete rough out, charred	4C: Broken incomplete rough out, ochred
5: OES “blank”		

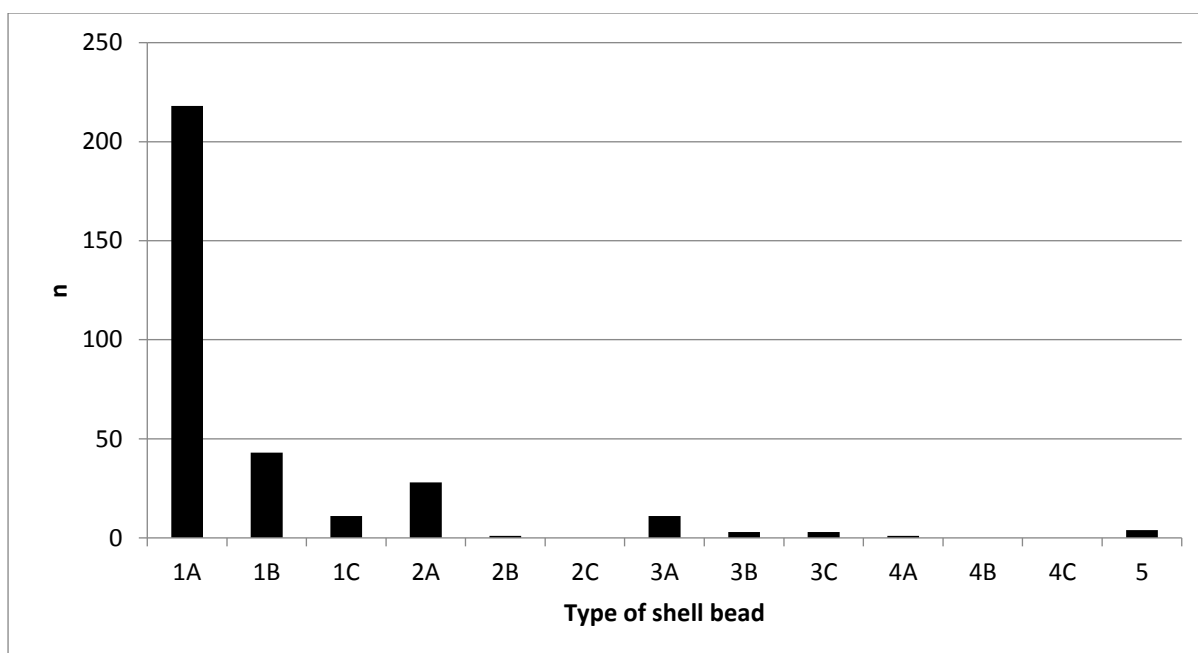


Figure 8.7 The types of shell beads identified from Shankare.

8.11 Evidence of manufacture

The manufacturing process for ostrich-eggshell beads involved breaking the shell into usable blanks that were then perforated through the center with a drill/awl, often made of iron. After this process, blanks were strung together and the edges sanded down (Tapela 2001). Alternatively, but less commonly, beads may have been formed into a bead blank and then perforated (Orton 2008). It appears that certain beads in the Shankare sample were further modified through deliberate charring to form a black colour (Figure 8.8:1C), or were coloured through the addition of ochre (Figure 8.8:1B), although some beads may have been unintentionally charred.

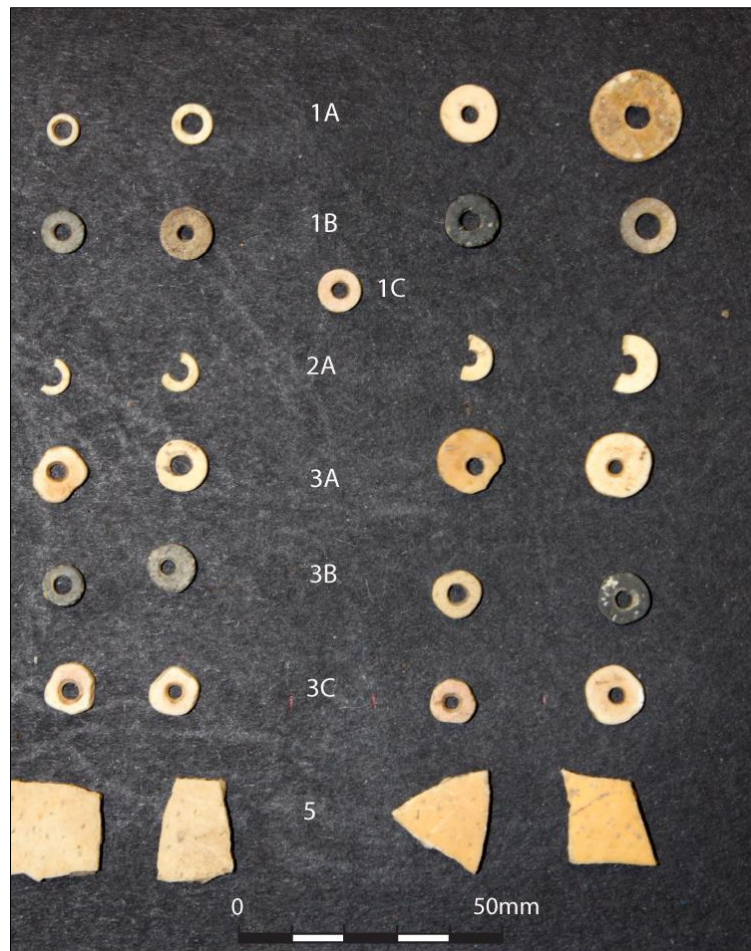


Figure 8.8 Ostrich eggshell beads and possible bead blanks found in Shankare Midden 1.

The average external diameter of the beads from Shankare was 5.35mm, with a range of 2.72–8.1mm. The mean internal diameter was 1.51mm, with a range of 0.62–2.72mm. Clearly, the range in the external diameter is quite large, but falls within the range of 1.5–13.5mm that Tapela (2001) encountered and documented at large herder/farmer sites. The variability in the size ranges of beads at farmer sites may relate to different sources of bead manufacture, with the possibility that some beads were made locally and others traded in through regional exchange networks. Ostrich-eggshell beads were traded between farming and foraging communities (Mitchell 1996), and different sized beads could be manufactured for use and trade (Jacobson 1987). It is clear that some beads were manufactured at Shankare, given the presence of incomplete rough-out beads. However, the high dominance

of finished beads in the assemblage (Fig. 8.7), and the presence of relatively few ostrich eggshell fragments in the fauna assemblage (4 blanks), possibly further points to the importation of these beads into Shankare. Faunal studies from the Phalaborwa region reveal that ostriches were present in the region in this period (Plug 1989), potentially indicating that shells could be locally sourced.

Shell beads feature in fairly high quantities at farmer sites dating to the 10th to 13th century in southern Africa (Hanisch 1980; Voigt 1983; van Eyk 1987; Antonites 2012). Even with the introduction of glass beads, ostrich eggshell and achatina beads continued to be utilised throughout the second millennium by Iron Age communities and may have been an important craft activity at some farmer sites (Hanisch 1980; Hall and Smith 2000; Vosloo 2001; Calabrese 2007). Forager communities that occupied the Shashe-Limpopo region contemporaneously with farmers also manufactured and utilised ostrich-eggshell beads along with a range of other beads (Hall and Smith 2000; Vosloo 2001). However, it does not appear that foragers manufactured beads directly for farming communities in the Shashe-Limpopo region: instead it is likely that beads were manufactured at farmer sites (Hall and Smith 2000: 36).

Ostrich eggshell and achatina beads appear to have been used alongside glass beads at farmer sites in the 10th–13th century period. Ostrich eggshell beads were also found as part of a “cache” at the contemporary commoner site of Kgase in Botswana. In a pot associated with a domestic hut floor, 2600 glass beads (of the Mapungubwe series) were found in a pot with 5000 ostrich eggshell beads and 50cm of metal wire (Denbow 1986). Indeed, further evidence of their co-use comes from burials. Beads make up a large proportion of the grave goods found at Iron Age sites: glass, ostrich eggshell beads, and achatina are the predominant types in this context, while metal and gold beads are less common (Saitowitz 1996). Of the burials recovered from K2 (AD 1000-1220), and associated with grave goods, 24 juveniles burials and three adults were buried with ostrich eggshell or achatina beads, with many of these accompanied by glass beads (particularly turquoise drawn beads) (Gardner 1966). Similarly, at the Glennel sites, Hanisch (1980) uncovered burials of an adult with strings of achatina and glass beads. Other burials at the site contained strings of achatina and ostrich eggshell beads (Hanisch 1980).

8.12 Summary and conclusion

Ostrich eggshell beads were recovered from domestic contexts primarily associated with ash middens at Shankare. The high percentage of finished beads possibly points towards the importation of beads into Shankare. However, comparative data at contemporary sites may in the future address this hypothesis more adequately. Furthermore given that ostriches were present in the region, local production may also have taken place.

The above discussion of both the innovation of cotton production and the use of ostrich eggshell beads indicates the importance of approaching both imported and locally made products in relation to local value systems and the interartefactual domain (Ogundiran 2002; Stahl 2002; Gosden 2005). Indeed the continued importance of locally produced cotton and the persistence of the cotton industry in the later historical period provides a potentially informative analogy for approaching the incorporation of imported items into the social repertoire of interior southern African communities in the early second millennium. Similarly glass beads, although appearing in higher frequencies at sites in southern Africa in the 10th–13th century, do not appear to have contributed to the diminishing value of locally produced beads.

Furthermore, while ostrich eggshell beads and spindle whorls represent fragments of technological processes or decorative items, it is important to think about them in relation to all the composite stages in the production and use of these items. It is possible that the spread and use of the technology of cotton production may be linked with decorative clothing techniques that involved beading. Similarly glass beads may be an extension and innovation in a repertoire that includes ostrich eggshell, achatina and metal beads. As such these technologies and materials were likely valued in relation to embodied social practice. This may not have reflected a valuation or use in line with the expectations of stereotypical global exchange mechanisms, such as those commonly associated with a prestige goods model. Instead the spread of the technology of cotton production and the use of cloth in the early second millennium in southern Africa point towards the adoption and use of this

technology in the materialisation of existing value systems. The following chapter considers these material entanglements in relation to the glass beads recovered from Shankare.

Chapter Nine:

Interaction, exchange and consumption of glass beads

“On extending the excavation of the burial a further substantial find of beads was made in the pelvic region of the skeleton. A panel of bead-work, approximately 15 centimeters in length and approximately 10 centimeters in width and extending away from the rear of the sacrum was found sandwiched in the dung matrix. These beads appear to have been worked into a skin or loin-cloth which has completely decayed. They also comprise of [sic] predominantly black oblates with Indian red oblates interspersed between them.” (Van Ewyk 1987: 92, describing the recovery of a burial at the site of Skutwater)

9.1 Introduction

Glass beads, the most abundant imported artefact retrieved in Iron Age sites, have a central role in reconstructions of the political economy of the early second millennium in southern Africa (Huffman 1972, 2009; Pwiti 1991, 2005; Denbow et al. 2008; Killick 2009; Wilmsen 2009; Robertshaw et al. 2010; Sinclair et al. 2012; Wood 2012). The framework, however, within which the distribution and consumption of glass beads has been approached closely resembles a prestige-goods model (cf. Friedman and Rowlands 1977). Furthermore, glass beads have further been interpreted in terms of conspicuous consumption by elites (Calabrese 2007; Wilmsen 2009). Their perceived rarity, and their movement across long distances, has further informed assumptions about the high value of glass beads (Wilmsen 2009).

The glass bead collection from Shankare provides an important dimension in approaching the context of Shankare within the regional political economy. The present chapter reviews the history of glass bead studies in southern Africa, and provides an analysis of the glass beads recovered from Shankare. These consist of samples from the 10th to 13th century occupation at the site as well as a late 18th/early 19th century collection from the later

terraced occupation. The presence of two glass bead samples from different time periods facilitates a comparison of conceptual approaches to glass bead studies in archaeological and historical contexts. The Shankare sample is further interrogated in relation to the regional distribution of glass beads at contemporaneous sites, providing an avenue for reconsidering existing models of the exchange and consumption of glass beads in the region.

9.2 Background to the history and interpretation of glass beads in the southern African Iron Age

Key issues relating to the study of glass beads in the southern African Iron Age revolve around the establishment of a bead typology, their use for relative dating, and their use in addressing the status of archaeological sites and the reconstruction of trade patterns. Early glass bead studies in southern Africa were aimed at creating a typology of beads that would be used in establishing the chronology of the sites, an endeavour that found strong impetus in the years before the establishment of radiocarbon dating in the region. Significant early typological studies, which provided a base for subsequent researchers, include those conducted by Beck (1928, 1937), Schofield (1938, 1958), van Riet Lowe (1955), and van der Sleen (1956). Beck (1928, 1937) studied glass beads from Great Zimbabwe and Mapungubwe, and established a classificatory system based on shape. Through comparison with bead collections internationally, Beck suggested that glass beads at these sites were of Indian origin. Van Riet Lowe (1955), who scrutinised the unsystematic analysis and classification of glass beads in South Africa, attempted to analyse and classify glass beads from a number of sites, including Mapungubwe, in the region. Many of his observations, however, particular pertaining to the source of glass beads, have been subsequently challenged (Saitowitz 1996). Robinson (1959, 1961) provided an important comparative database in his study of glass beads from across Zimbabwe, and was able to preliminarily separate out different bead series. Van der Sleen (1956) analysed beads according to provenance from around the Indian Ocean rim, and consequently coining the term “trade wind beads”.

Claire Davison pioneered provenance studies based on chemical composition in southern Africa, making the first attempt to differentiate beads by chemical composition, using neutron-activation analysis and X-ray fluorescence (Davison 1972, 1973; Davison and Clarke 1974). Davison suggested that the “trade wind beads” were widely distributed in space and time, and provided little chronological control. Along similar lines, Sharma Saitowitz’s (1996) doctoral research focused on using scanning electron microscopy with energy-dispersive spectrometry to measure the major and minor elements of glass beads, as well as laser ablation, inductively coupled with plasma mass spectrometry (LA–ICP–MS), to measure trace elements. Her results indicated that one location of glass bead manufacture was al-Fustat in Cairo (although see Robertshaw et al. 2010 for a critique).

Building on previous research, Marilee Wood (2000, 2005, 2009, 2011, 2012) established a typology of bead series for southern Africa (Table 9. 1), drawn from the study of glass beads at a number of southern African Iron Age sites. This was based on the differentiation of beads according to their morphological characteristics, as outlined below.

Table 9.1 Glass bead series for the southern African Iron Age. Adapted from Wood (2005, 2009, and 2012) and Robertshaw et al. (2010).

Bead series	Dates	Selection of sites found	Source	Composition
Chibuene	AD 700–800	Chibuene, Nqoma	Middle East	
Zhizo	AD 700–1000	Makuru, Zhizo Hill	Middle East	Low alumina, high calcium plant ash glass
K2 Indo-Pacific and East Coast Indo-Pacific	AD 1000–1250	K2, Zimbabwe Hill, Mapungubwe, Pont Drift, Schroda	South Asia	Soda-alumina glass
Islamic	AD 1250–1300	Mapungubwe, Great Zimbabwe	Middle East	Plant ash glass
Mapungubwe	AD 1250–1300	Taba Zika Mambo, Mapungubwe, Great Zimbabwe, Bosutswe	South or southeast Asia	High alumina, low calcium plant ash.
Great Zimbabwe	AD 1300–1450	Skutwater, Thulamela, Great Zimbabwe	South or southeast Asia	High alumina, low calcium plant ash.
Khami	AD 1450–1650	Faure, Bosutswe, Toutswe, Great Zimbabwe, Khami	South Asia	High uranium low barium soda-alumina glass

The bead series developed by Wood (2005, 2012) has been coupled with chemical analyses of the glass bead series (Robertshaw et al. 2010) to create a more robust bead typology (Table 9.1: composition), and this classificatory system remains the most widely utilised bead typology employed by southern African archaeologists. Using Laser Ablation Inductively Coupled Plasma Mass Spectrometry (LA_ICP_MS) to analyse major, minor and trace elements, glass compositions can be matched to glass recipes across the world to locate areas of manufacture (Dussubieux et al. 2009, 2009, 2010; Robertshaw et al. 2010; Denbow et al. 2015; Wood et al. 2016). This mode of research has pioneered the location of the geographical regions where beads were manufactured (Table 9.1).

9.3 Bead analysis: method and recorded attributes

The glass bead sample from Shankare was washed and sorted following standard laboratory procedures. Glass beads were then analysed and recorded following the methodological procedure outlined in Wood (2005, 2009), for comparative purposes, but with minor variation, including the creation of a typology for the assemblages from Shankare to further aid in analysis. Wood has provided a classificatory method in which the attributes of shape, method of manufacture, colour, diaphaneity, bead preservation and size are recorded.

Method of manufacture: There are three general methods of glass bead manufacturing: drawn, wound or moulded. Drawn beads are made by shaping glass through a cylinder, and then chopping the glass into smaller sizes and reheating the ends. Wound beads are made individually through winding glass around a mandrel core (Saitowitz 1996; Wood 2005). Moulded beads in the interior of southern Africa are limited to “garden rollers” (Wood 2005, 2012). In southern Africa, drawn beads predominate, with smaller numbers of wound beads recovered (Saitowitz 1996; Wood 2005).

Colour: There is as yet no standard colour terminology for glass beads used by bead researchers (Wood 2005). For this study, classification according to the existing colour categories established by Wood (2005, 2009) was employed.

Shape: The shapes of glass beads are depicted in Fig. 9.1. Shape relates to whether beads were subject to heat treatment. Tubular beads are not heat-treated, while cylinder beads retain the original tube shape of drawn beads but have heat-treated, rounded ends. Oblates are reheated until the entire profile of the bead is rounded (Wood 2005: 31).

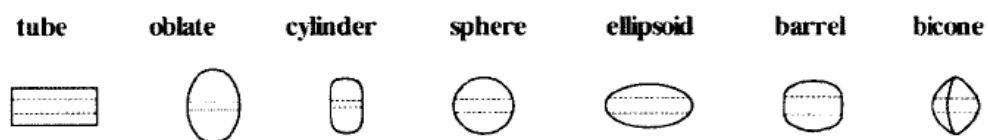


Figure 9.1 Shape categories of glass beads, taken from Wood (2005: 31).

Diaphaneity: Diaphaneity, the translucency of glass, is an important attribute in aiding bead classification; its categories include opaque, opaque-translucent, translucent-opaque, translucent, translucent-transparent, transparent-translucent, and transparent (Wood 2005:34). Observing beads under reflective light using an optical microscope is the best means of measuring diaphaneity.

Bead preservation: A further attribute recorded was the presence or absence of patination, and the degree of patination (light, medium and heavy). The devitrification of glass causes the appearance of a patina on the surface (Pollard and Bray 2008). Certain bead series, such as the Mapungubwe series, appear more susceptible to devitrification than others (Wood 2005; Dussubieux, et al. 2009; Robertshaw et al. 2010).

Size: Wood (2005, 2009) developed her own size categories to deal with southern African glass beads, which are in general much smaller than those found on the East African coast. The length and outer and inner diameter of each bead was recorded and tabulated according to Wood's size groups (Table 9.2).

Table 9.2 Size categories of glass beads, after Wood (2005: 34).

Size designation	Diameter
Minute	below 2,5 mm
Small	2,5 – 3,5 mm
Medium	3,5 – 4.5mm
Large	above 4,5 mm

9.4 Bead analysis: results

In total, 329 glass beads were recovered from different excavation areas at Shankare. Glass beads were differentially distributed across the site, with a significant part of the sample recovered from Midden 1 and the terraced excavations, while only 12 beads were recovered from the hut-floor excavation areas and no beads were recovered from the Burrow Pit midden. Only two glass beads were recovered from the test pits. This may be attributable to sieve mesh size where a 3mm mesh was used, rather than the fine (1.5 mm) mesh sieve used for the other excavations. Flotation and fine sieving are critical in retrieving such small beads (Antonites 2014; Denbow et al. 2015).

The beads were individually recorded and glass beads from the different excavation areas were separately analysed, based on the above-described attributes. The Shankare glass bead assemblages are discussed below.

9.4.1 Shankare Midden 1

The 202 glass beads recovered from Midden 1 dominates the Shankare sample. Black/dark-coloured patinated oblates are most numerous (n=76) and red-brown (also known as “Indian red”) oblates and cylinders (n=32). Of the red-brown beads, 78% are oblates (n=25). Two further categories were created for definite cylinders (n=1) and tubes (n=5). All the red-brown beads fall within the minute-small size class and are all opaque (Fig. 9.4). The next significant bead colours in the assemblage are turquoise-green and turquoise-blue. The turquoise-green beads are minute-small-sized transparent oblates (n=8), but others fall into the larger medium-large size class (n=5). Turquoise-blue beads (9, 4%) were minute-small transparent-translucent oblates. A small number of yellow beads were sub-divided into a bright yellow cylinder-oblate, transparent and medium in size (n=1), a minute-small oblate, dull yellow in colour (n=2), and a crazed mustard-yellow cylinder, small in size and opaque (n=1). Other minority categories include one light brown small-sized opaque oblate, one dark brown oblate and one pearly white oyster-coloured medium-sized and patinated cylinder.

A significant number of black/dark beads from Midden 1 are heavily patinated and cream coloured (Fig. 9.4). However, when the patination is removed the dark black colour is visible underneath. In some instances, the original colour could not be distinguished, and any attempt to remove the patina caused the bead to disintegrate. Consequently, 29% (n=58) of the bead assemblage was thus labelled “patinated” and no colour could be given. Beads that could discernibly be identified as black are categorised separately (n=7). Most are small-sized oblates, with the exception of two black beads that were medium-sized cylinders. All the beads from Shankare Midden 1 were drawn beads. 54% (110) of the beads fall into the small-size category (Fig. 9.3), and the dominant shape of the bead assemblage is oblates. The only examples of tubes were a selection of red-brown tubes.

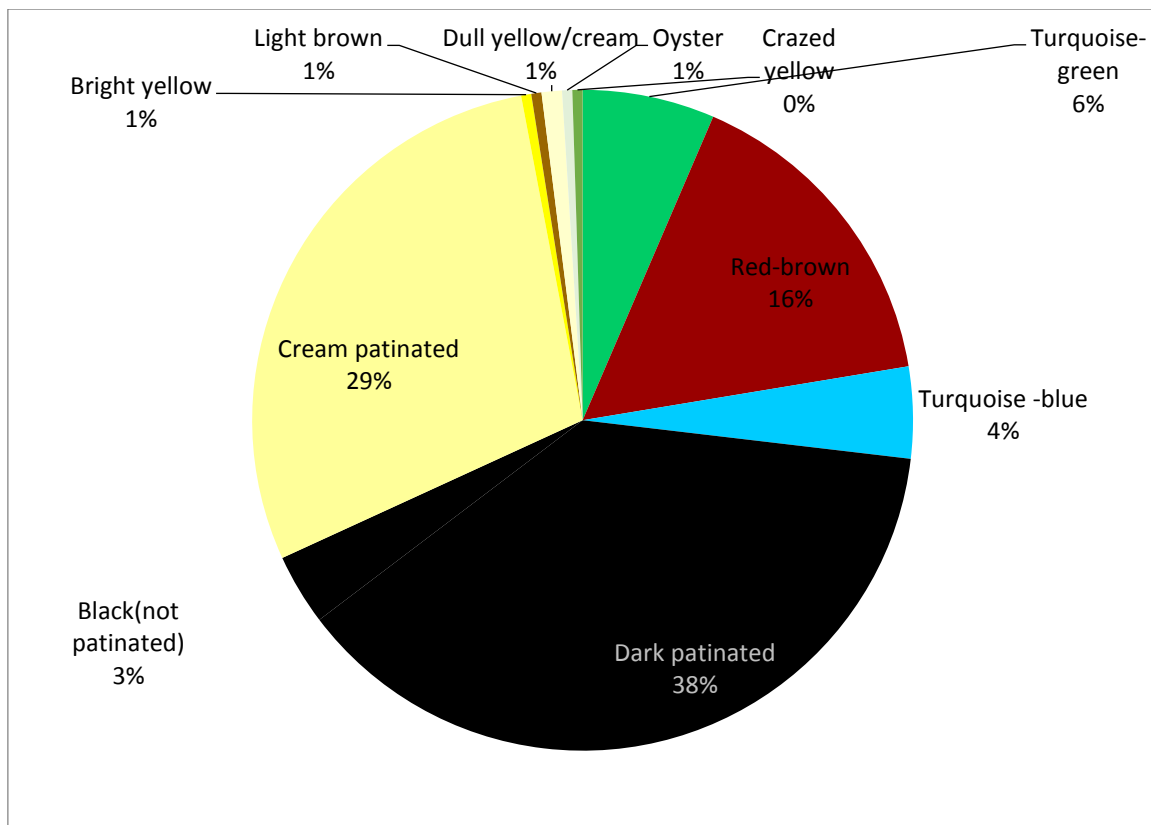


Figure 9.2 Colour ranges of glass beads represented in Midden 1 (n=202).

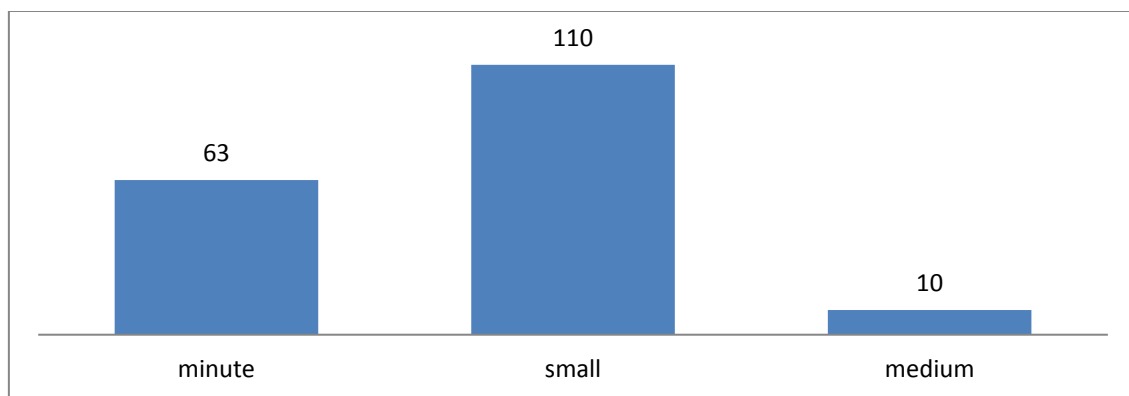


Figure 9.3 Size ranges of Midden 1 beads. Due to the corrosion of some beads, not all beads could be given a size category.



Figure 9.4 Selection of glass beads from Shankare Midden 1, showing examples of turquoise beads, devitrified black oblates, red-brown cylinders and oblates, and a large yellow bead.

The beads from Midden 1, when compared with other samples (Wood 2005, 2009, 2009; Antonites 2012), fit closely with the Mapungubwe oblate series, with a smaller representation of the K2 Indo-Pacific beads series. The Mapungubwe oblate series is characterised by small drawn oblates of uniform shape. Black is the most popular colour, but blue-green (categorised as turquoise in this study), light green, yellow and orange are also present (Wood 2005, 2009). Cylinders and tubes are present in the series but small-minute

oblates are the dominant shape. The dominance of devitrified oblates in the Shankare sample points strongly towards the Mapungubwe series, because glass beads in this series often devitrify, “turning into glass that looks either dull white or rather crystalline and yellowish” (Wood 2005: 44). This tendency to devitrify does not carry over to black beads from other pre-European bead series, such as the Indo-Pacific and Zimbabwe bead series (Wood 2005: 53). Robertshaw et al. (2010: 1907) suggest that the devitrification of black beads may be as a result of the low levels of Na₂O in the Mapungubwe bead series.

The K2 Indo-Pacific bead series appears in the Shashe-Limpopo region around AD 1000 (Wood 2005: 51). Colours range from yellow, green, brownish-red, black and blue-green to off-white, with different colours appearing in different periods. Turquoise-blue, turquoise-green and yellow beads occur in the K2 Indo-Pacific and Mapungubwe oblate series (Wood 2005: 50, 52). In the K2 Indo-Pacific series they are translucent tubular beads, not represented in the Shankare sample. In the Mapungubwe oblate series, turquoise beads are represented as both oblates and cylinders, mostly small to minute. It is possible that the blue-green and yellow beads fall into the K2 Indo-Pacific and Mapungubwe oblate bead series. Red-brown (Indian red) oblates and cylinders, part of the K2 Indo-Pacific series, also occur in the Mapungubwe bead series (Wood 2005, 2012).

However, one off-white bead recovered from Shankare Midden 1 does not fit in with the above mentioned bead series. It was recovered from a depth of 30–40cm below the surface in Midden 1, thus eliminating the possibility of contamination from the later occupation of the site. According to Wood, off-white translucent opaque beads appear in the Khami period (from early 15th century), as part of the Khami Indo-Pacific bead series (Wood 2005: 56). This date is too late for this midden, which has an associated radiocarbon dates from 830±30 BP (Beta-306714) coming from this level of the excavation. It may well be that this bead appears earlier in the Indo-Pacific series than previously thought, perhaps becoming popular in the Khami period.

The Midden 1 sample is comparable with other Mapungubwe bead-series collections in the region, one of which is Kgaswe in Botswana (AD 1000–1260) (Denbow 1986: 19). The Kgaswe sample, analysed by Wood (2005: 44), is dominated by red-brown, black and blue-green beads, and was classified as an early Mapungubwe period series. A more comparable

collection of 1251 beads comes from Skutwater, a Mapungubwe-period homestead 18km northeast of Mapungubwe, with a calibrated age of AD 1225–1285 (van Ewyk 1987: 149). The highest bead frequencies are black oblates, with turquoise, green and Indian-red oblates also featuring predominantly. Also of note are the patinated beads, that were not included in the original tables and increases the bead count to 1302. The Skutwater bead collection, like that from Shankare, is representative of the Mapungubwe oblate series, with some beads from the K2 Indo-Pacific series (see Wood 2005: 148). Another comparable collection that included 342 drawn beads was retrieved from the mid-13th-century site of Mutamba (Antonites 2012, 2014). Devitrified black beads were the most numerous (65.3%), followed by blue-green (17.2%) and brownish-red (11.7%) (Antonites 2012: 178). The majority (64%) were oblates, with some cylinders (30.4%) and tubes (5.6%).

9.4.2 Shankare Terraces

There were no significant differences between terrace 1 and terrace 2 beads, so although they were initially analysed separately, both samples are discussed together here (Fig. 9.5). Beads from the terrace include striped white minute-small cylinders (n=9). These have also been identified at 19th-century sites in South Africa (Woods 2007). Stripes were either pink and green or orange and green. The most common category of beads were small light blue translucent-opaque oblates and cylinders (n=25), followed by small, translucent-opaque oyster-white oblates and cylinders (n=22). There is also a significant number of small translucent green cylinder and annular shaped beads (n=16), and cobalt-blue transparent-translucent cylinders (n=11), ranging in size from minute to medium. All the red-brown-coloured beads are tubes and have either a brown metallic or green colour inside, and are opaque and small to medium in size (n=11). These have been identified as Indian-red-on-green (IROG). IROG beads are a common feature of 19th-century bead collections (Wood 2007). IROG beads are either tube or cylinder shaped and were made by adding a thin layer of opaque brownish-red glass over a core green, blackish or translucent red bead. According to Wood (2007: 185), they were first manufactured in the 1600s in Venice, and later exported to southern Africa.

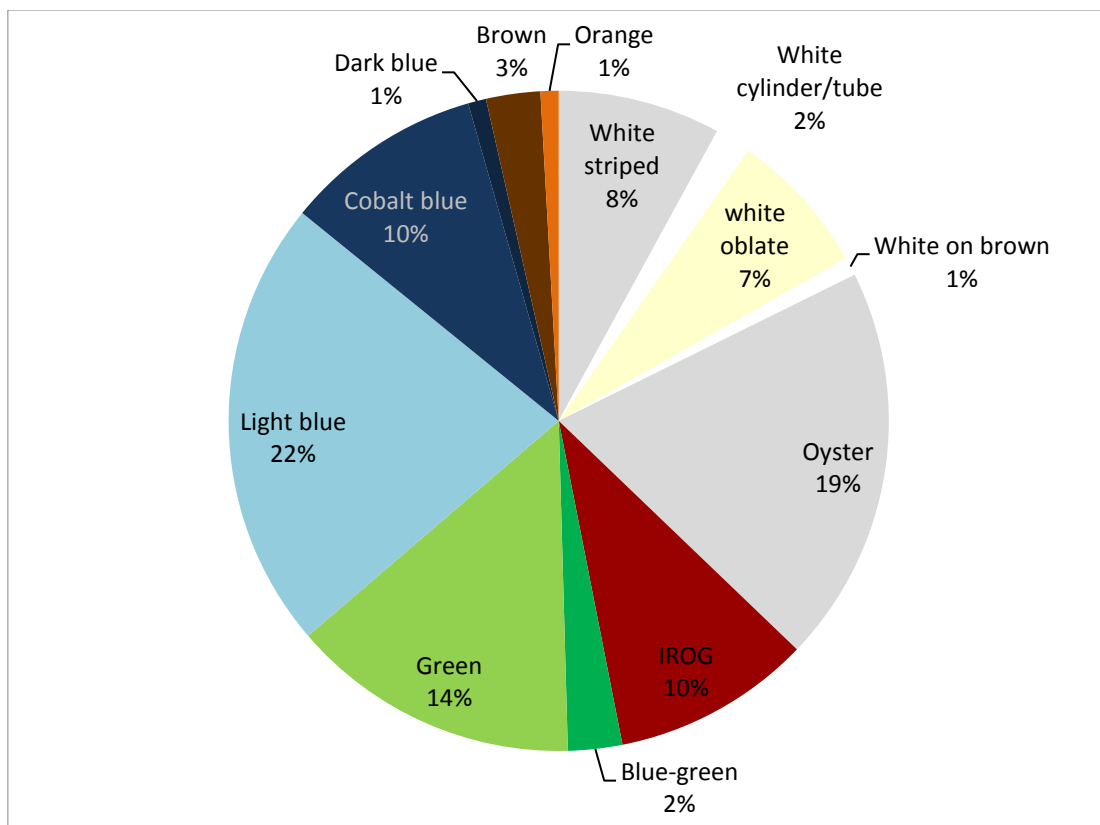


Figure 9.5 Colour ranges of glass beads represented in Terrace 1 and 2 (n=113).

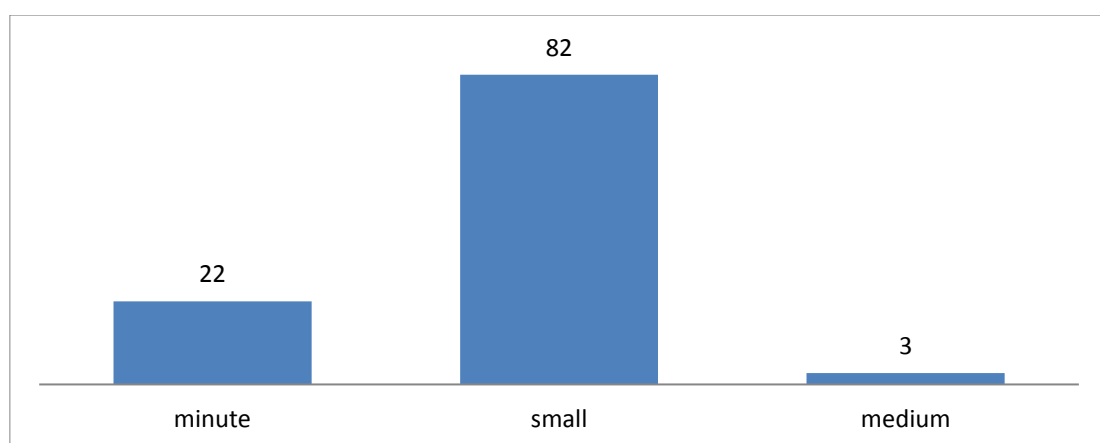


Figure 9.6 Size ranges of glass beads from Terrace 1 and 2.

Pure white beads also constitute a significant part of the assemblage (n=10). These are both cylinders and oblates, and are minute-small in size and opaque. White beads of this kind appear in the southern African archaeological record at the beginning of the 19th century (Wood 2007: 186). One white bead was white-on-brown, with a layer of white glass being added over an inner brown-coloured bead. Lastly, there was only one minute transparent dark blue oblate, and one minute transparent orange tube.

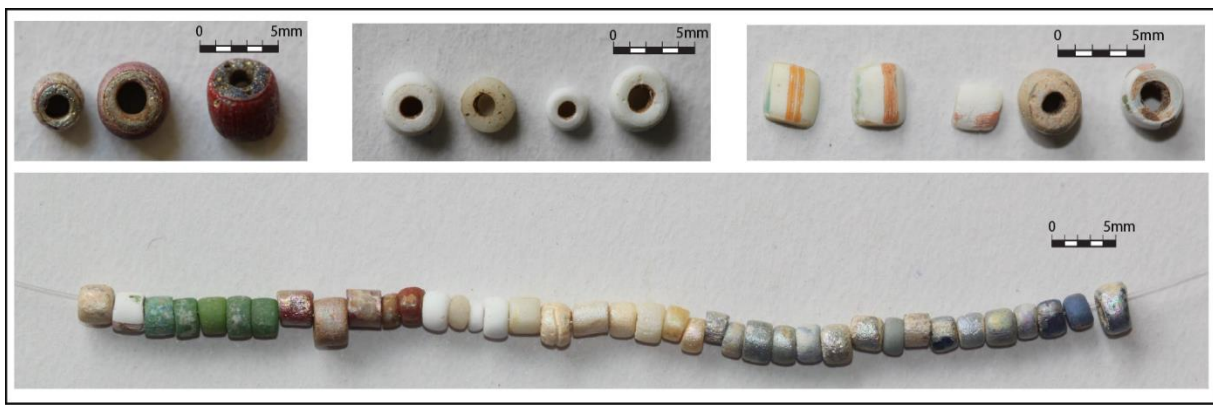


Figure 9.7 Selection of glass beads from the Shankare Terrace excavations.

The beads recovered from excavations on the terraces differed significantly from the beads from Midden 1, with only one bead type overlapping: oyster white beads, of which only 1 was found at Midden 1 and 22 were found at the terraces. All other categories differed, highlighting the differences in bead types between these two periods. As discussed above, oyster white beads appear as part of the Khami bead series from the 15th century, and are the only white beads found in South Africa prior to 1830s, according to Woods (2007). Though the beads were initially made on the Indian subcontinent, Wood writes that, “from 1580-1890, Venetians made drawn oyster white beads with clear coats (a thin layer of colourless glass that added a shine)” (Wood 2007: 186).

The terrace beads are significantly less patinated than those from Midden 1, with the IROG and light blue beads being the noticeable exceptions, but discerning the colour of the beads

was always possible. Significantly, no black or red-brown beads (only red-on-green) were found in the terrace samples. Together the assemblage suggests a 19th-century date. Indicative is the presence of large numbers of light blue beads, pure white beads, IROG beads, and striped white beads (Wood 2007). No white hearts beads were found in this collection. White hearts are translucent red drawn on white cylinders or oblates, first made in Venice in the mid-1830s and brought to South Africa soon afterwards (Wood 2007: 185). Nor were there any “cornerless hexagons” or wound glass beads, which are also found in 19th-century collections (Wood 2007). There was also a notable absence of large blue glass beads (including cornerless hexagons), which are present and make up a large part of the collection at the Late Iron Age site of Masorini, some 10km away from Shankare (Saitowitz 1996). Their absence may reflect the fact that these larger beads were already collected by visitors or archaeologists as part of earlier surveys at Shankare, given that they are easily visible and are regularly collected from archaeological sites (Wood 2007). It may also refer to a difference in consumption patterns between the sites.

9.4.3 Shankare Hut Floor

Beads from the Hut Floor excavation area were few in number (n=12). A number of beads—two blue-green transparent oblates, a medium transparent cobalt-blue oblate, a large dark blue oblate, and an oyster-coloured cylinder—are similar to those found at the terraces and in other 19th-century collections (Fig. 9.8 and Fig. 9.9) They were retrieved from the top 10cm of the excavations. The black oblates (n=3) and red-brown cylinders (n=2) and a large yellow translucent cylinder closely resemble those recovered from Midden 1 (Fig. 9.10) and were recovered from the ash midden underlying the hut floor.

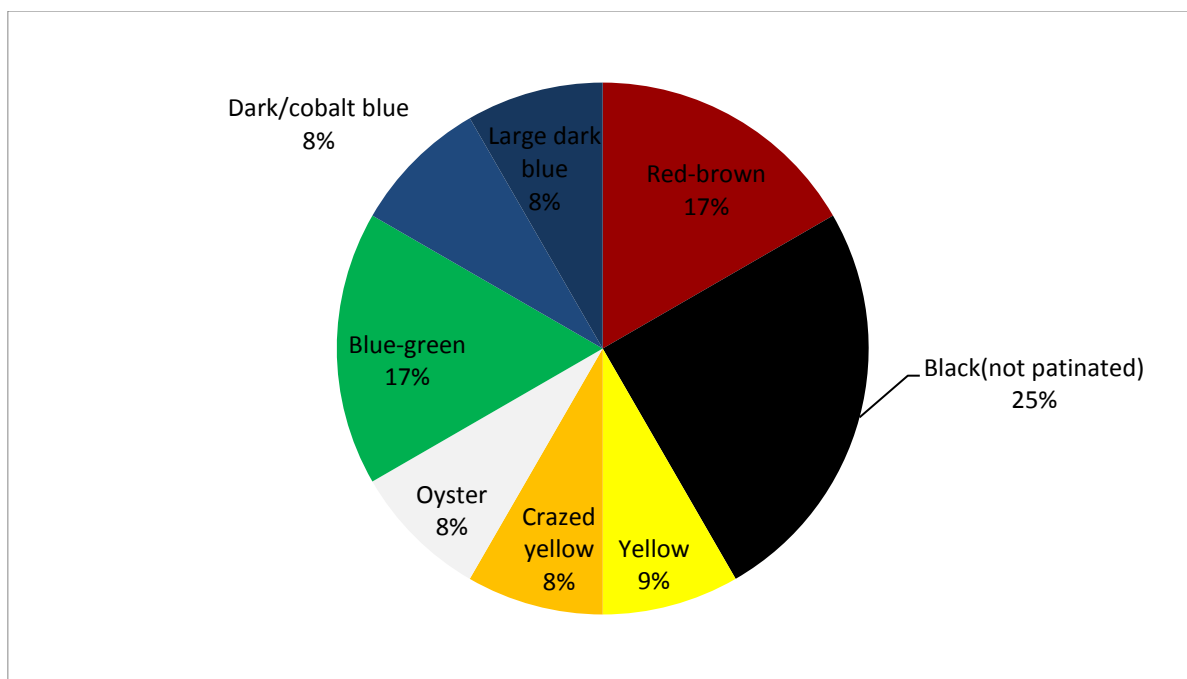


Figure 9.8 Colour ranges of glass beads represented in the Hut Floor excavation area (n=12).

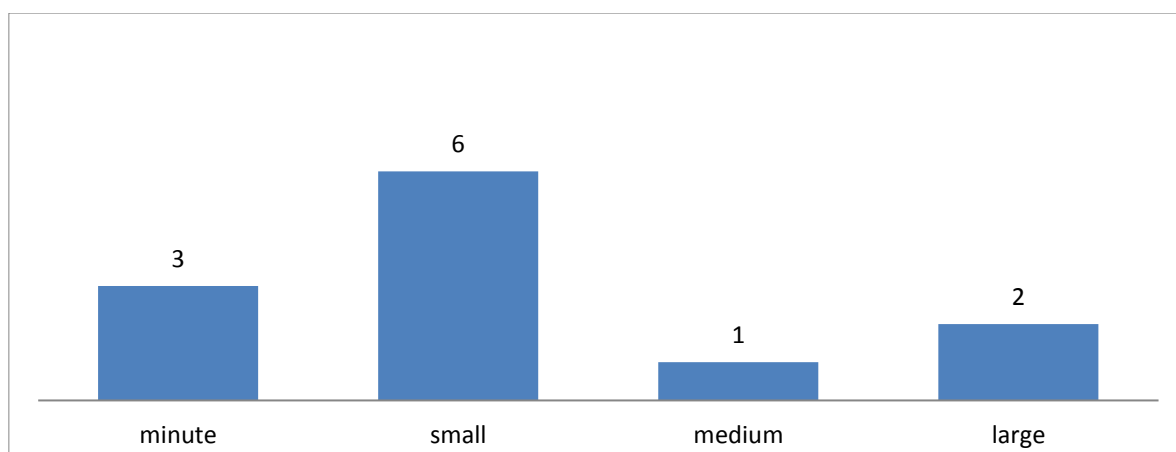


Figure 9.9 Size ranges of glass beads from the Hut Floor excavation area.

The stratigraphic complexity of the sequence at the Hut Floor area may possibly explain the diversity in the bead assemblage, since the excavated areas of the hut floor partially overlay

a Kgopolwe ash midden. Parts of the floor had been heavily disturbed and were no longer visible, increasing the possibility of the mixing of cultural material in the top layers. Radiocarbon dates from the Kgopolwe midden underneath the floor confirm the early occupation of the site, but the overlying hut floor may have been deposited at a later date. Given the proximity of the floor to the base of the hill, it may have been an extension of the terrace occupation. The ceramics from the floor surface were poorly decorated, and in this were stylistically inconclusive.

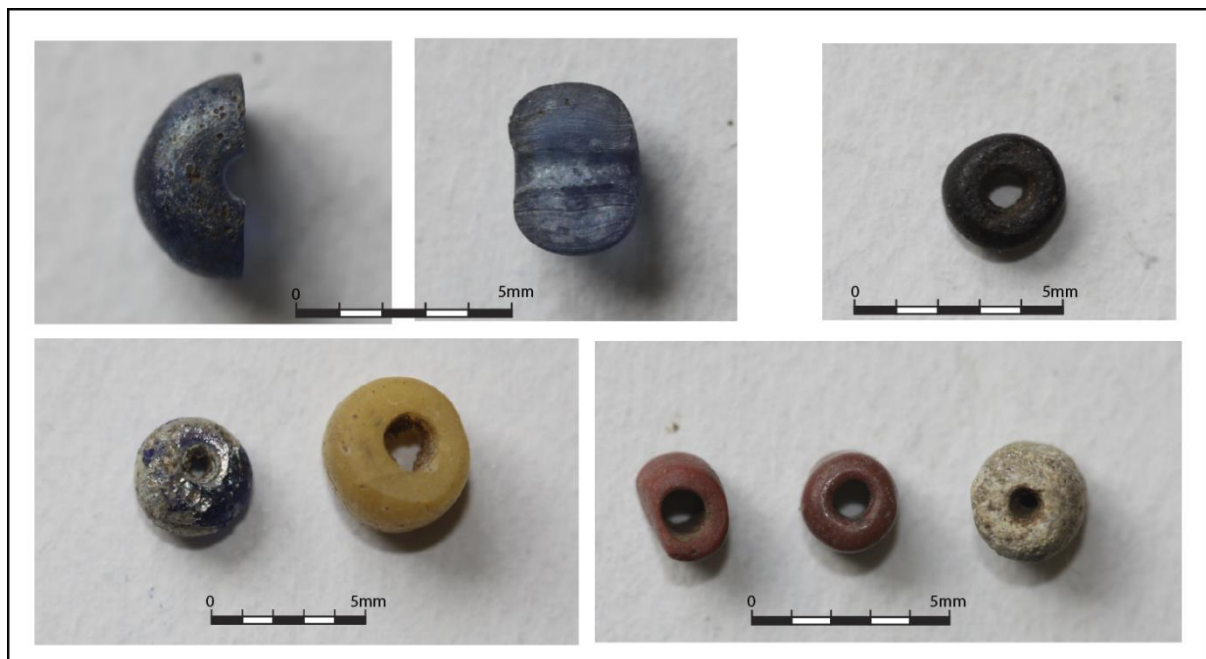


Figure 9.10 Glass beads from the Shankare Hut Floor excavation area. A large blue bead (top right) is typical of 19th-century collections. Black oblates, a large yellow bead and red-brown cylinders are typical of the Mapungubwe series.

9.5 Discussion: 10th–13th-century Shankare bead assemblage

The attribution of the beads from Midden 1 to the Mapungubwe oblate series fits in with the existing radiocarbon dates available from Shankare Midden 1. Beads are distributed in the

top 50cm of Midden 1, with a large quantity coming from level 3 (20-30cm) and few beads recovered from the lower two levels (50-70cm) of the midden. The paucity of beads from the Hut Floor excavation area and the absence of glass beads in the Burrow Pit midden represent a number of potential scenarios. It is possible, given the radiocarbon dates of the site, that bead densities increased at Shankare in the later occupation of the site, as represented by the top three levels of Midden 1 (Fig. 5.12). However, the absence of fine sieving in the test pit deposit precludes further inferences about the spatiality of deposition at the site.

Bead density distribution varies somewhat in between domestic contexts at Iron Age sites. Wood (2005: 107) discussed the varying bead densities in K2 domestic contexts, indicating a higher recovery of beads in midden contexts. However, Antonites (2012) found the distribution of glass beads relatively uniform between hut floor and midden contexts at Mutamba. The glass beads from the Kgopolwe phase occupation at Shankare are all from midden contexts. The glass beads are mixed with other cultural deposits, pointing towards their discard in a domestic context. Significantly, none of the beads were part of a cache or burial, which may distort bead numbers in favour of higher volumes.

The Shankare bead assemblage can potentially provide insight into the context of the site within the regional political economy of the 10th to 13th century. The beads identified at Shankare are dominated by the Mapungubwe oblate series, which appears at other sites in the early to mid-13th century. Mapungubwe period beads appear at Mapungubwe Hill after AD 1250 in vast quantities; they also occur in burials at K2, but it has been argued that these were Mapungubwe period burials (Woods 2000: 82). Bead densities were significantly high in the burials on Mapungubwe Hill, with thousands of beads associated with each grave (Saitowitz 1996: 101-102). The presence of high numbers of glass beads and other exotic goods is used as evidence of Mapungubwe's importance (Huffman 2000, 2009; Calabrese 2007; Wood 2012). As Huffman (2000: 27) writes, "control of the supply of imported glass beads and cotton cloth, and of their redistribution, appears to have been a central mechanism in the development of complex society in this region". In this period, glass beads are purportedly concentrated only at elite sites, such as Mapungubwe and Great Zimbabwe, and "to a lesser extent" Bosutswe (Denbow et al. 2007; Wilmsen 2009; Huffman 2000).

Beads at contemporary sites in this period are said to be “lacking”. However, a review of the distribution of the Mapungubwe series bead suggests that Mapungubwe series beads were actually quite widely distributed, found at other hilltop sites such as Mapela (Chirikure et al. 2014), on commoner sites (Denbow 1986; Van Ewyk 1987; Hanisch 1980; Vosloo 2001; Denbow et al. 2007; Wood 2005, 2012; van Waarden and Mosothwane 2013; Antonites 2014), and in rock shelters (Vosloo 2001). It is also important to note that current knowledge of bead distribution is biased by a number of factors. Recovery processes have hampered the systematic collection of glass beads, which requires fine sieving with a 1mm mesh and the use of floatation, a technique not often utilised in southern African archaeology (Antonites 2012; Denbow et al. 2015). Furthermore, given that the focus in this period of socio-political complexity has been on elite sites, and especially elite areas of sites, there is an undeniable recovery bias towards large, “elite” sites, and consequently most beads from the 10th–13th century having been found in Shashe-Limpopo (Robertshaw et al. 2010). Additionally, the density of beads in burials is significantly higher than in domestic contexts. Over 26000 beads were recovered from one burial on Mapungubwe Hill (Saitowitz 1996: 201). Similarly at K2, and other sites from the period such as Mamangwe, the density of beads in burials is significantly higher than in domestic contexts (Gardner 1963: 39–53; Steyn and Nienaber 2000: 14; van Waarden and Mosothwane 2013: 180).

Table 9.3 Glass bead frequency per unit volume, m³ (taken from Woods 2012: 39, and Antonites 2012: 190). Volume for Shankare calculated for all Kgopolwe phase excavation areas, excluding Test Pits 2, 3 and 4.

Site	Beads per m ³
Leokwe Area A	3.4
Castle Rock	5.6
Pont Drift	9.3
Skutwater	5.6
Mutamba	12
Mapungubwe K8 occupational level 1	29.6
Mapungubwe K8 occupational level 2	8.4
Schroda	5
<i>K2</i>	<i>Estimated at 27-101¹²</i>
<i>Mapungubwe Hill Occupation</i>	<i>Estimated at 68</i>
Mapungubwe K8 occupation level 1	29.6
Mapungubwe K8 occupation level 2	8.4
Shankare Kgopolwe phase	18.28

Table 9.3 shows the density of beads at Shankare in comparison with other sites from this period. The presence of the Mapungubwe oblate series, and the density of these beads at Shankare, confirms that glass beads are not limited to elite sites and suggests that the occupants at Shankare had comparable access to glass beads to occupants at Mutamba, and higher access to glass beads than occupants at a number of sites in the Shashe-Limpopo basin. It also confirms that the copper producers of Shankare were participating in regional networks linked directly or indirectly to the Indian Ocean, potentially indicating the exchange of beads for copper. In addition, it considerably extends the distribution of the Mapungubwe oblate series southwards. The potential exchange patterns that facilitated the distribution of glass beads to Shankare, and their implications for understanding the regional political economy, are discussed more fully in Chapter 11.

¹² The density of beads at K2 varied significantly between excavation areas (see Wood 2012: 40).

9.6 Terrace period beads and the historical context of beads in southern Africa

The terrace glass bead collection is from a late 18th and early 19th century context. Mason (1986: 116) recovered, but did not describe, a further 79 glass beads from the Shankare terraces. Pistorius (1989) documented glass beads at most of the 18th–19th century sites he surveyed and excavated in the region, with large dark blue beads being the most frequent bead type, and small light blue, white and red beads also common. Glass beads are also present at the site of Masorini (Meyer 1986), including large blue hexagonal beads on display at the site museum. Krige (1937a) noted the bead types found in Phalaborwa, the most common being royal blue and green beads (also found in Venda), yellow, white, small Indian-red-on-green canes, white oblates with longitudinal stripes, and light blue beads. Among the larger beads were blue hexagonal beads with white cores, large blue annular beads, large white beads, and large powder blue beads (Krige 1937a: 364-5). Clearly, glass beads are common on late Iron Age sites in the region and the collected data suggests that the smaller beads that are represented in the Shankare sample had a wide popularity in Phalaborwa.

There are, however, few studies of glass beads from 18th–19th century archaeological contexts (Wood 2007). Glass beads were frequently exchanged and used in this period, and it is thought that they became much more widely accessible in the 18th and 19th centuries, particularly with the increased trade from the expanding Cape colony, which led to a proliferation of new beading styles (Klopper 2000; Levy 1991; Beck 1989). In the Lowveld, the trade in glass beads was closely connected with the coastal trade with Delagoa Bay (reviewed in Chapter 3).

Beads were widely circulated and exchanged in different networks, as part of local and regional exchanges, as gifts for lovers, and also used in bridewealth exchanges in place of cattle or hoes (Kuckertz 2000: 99). The historical literature, as well as the ethnographic collections, makes us aware of the huge diversity of southern African beadwork. It is also replete with indications of the value and use of glass beads by southern African

communities. Bvocho (2005: 419) describes the many historical uses of glass beads in Shona society, where for example, combinations of black and white glass beads represent spirit mediums (*vadzimu*). Some traditional healers wearing these beads believed they could enhance their power. Waist girdles (*mutimwi*) made using material and glass beads were commonly worn by women as part of their “private ornamentation” (Bvocho 2005).

The types and colours of beads also played an important role in distinguishing processes and or people. Many beads were prized for their age, and were safeguarded as heirlooms. This is a common observation, and there are a number of ethnographic accounts of bead collections that describe the importance of beads as heirlooms (Schofield 1943; Davison and Clark 1976; Davison 1984). The Phalaborwa also supposedly possessed blue-green opaque heirloom beads. Krige (1937a) noted that glass beads were important among the baPhalaborwa in communicating with the ancestors, particularly when asking for their help with illness or distress.

In the Lobedu region, Davison (1984) noted that glass beads were divided into heirloom beads, which were highly valued, and modern beads. The first were regarded by the Lobedu as sacred objects (*thugula*), much like old hoes, and were used as amulets. Myth has it that the beads and sacred rain charms used by the Lobedu queen, a famous rainmaker, were taken illicitly from the Rozwi mambo (in south-western Zimbabwe) by the Lobedu (Davison 1984: 9).

Junod (1927) documented the role of beads in different ceremonies among Tsonga communities: “As soon as the child has cut the two lower and upper incisors, the mother takes a white bead (*tjambu*) and ties it to one of the child’s hairs above its forehead. This white bead is said to help the other teeth come out normally” (1927 Part II: 51). This ritual makes sure the child is intelligent and smiles. “When all the teeth are duly cut,” writes Junod, “the bead is removed and thrown away talen, viz on the *tala* [ash heap]” (1927 Part II: 51). Beads were given different names according to their size and colour, and used in a variety of different ways. The chief ornament of beadwork made by Tsonga women was the *mugangu*. This ornament was used in courtship: “it is a kind of crown of blue beads with red chevrons, worn by girls when they wish to beautiful themselves” (Junod 1927 Part II: 103).

Bead necklaces, bracelets and anklets were also worn, and glass beads were used to decorate bottles, tobacco pouches, and so on.

Historically, bead tastes fluctuated widely and quickly, with many travellers, early ethnographers and missionaries noting how quickly bead tastes changed (Junod 1927; Bryant 1948; Beck 1989; Klopper 2000). Colours and sizes were selected for particular uses, and these fashions frequently changed. Red, white and black beads remained widely popular, likely relating to a colour schema that held symbolic importance (Pemberton 2008; Nettleton 2016).

The historically documented uses of glass beads illustrate their varied and contextual values in the recent past in southern Africa. Glass beads—sewn into aprons, used in the hair, strung as necklaces or waistbands—were markers of age-grades, rites of passage, and gender, and played important symbolic roles in many other contexts where social boundaries were crossed and needed to be clearly ‘marked’ (Junod 1927; Krige 1937a; Davison 1984; Bvocho 2005; Pemberton 2008; Nettleton 2016).

9.7 Conclusion

Approaches by historians and archaeologists to the exchange and consumption of glass beads by southern African communities are remarkably different. Glass beads associated with sites that overlap with the first occupation phase at Shankare (10th–13th century) have been central to reconstructing trade patterns. Where consumption is concerned, analysis has been restricted to those forms of consumption related to the materialisation of an elite ideology (for example, Calabrese 2007; Wilmsen 2009; Wood 2012). Glass beads in the historical period, in contrast, have been used by historians, ethnographers and art historians to address the materialisation of identity.

As the opening quote to this chapter suggests, evidence of the use of glass beads in the archaeological record indicates that they were likely used in adornment of some form. The recovery of beads from burial contexts in this period indicates that they were sewn into aprons or worn as necklaces (Gardner 1963: 39-53; van Ewyk 1987: 92; Steyn and Nienaber

2000: 114; van Waarden and Mosothwane 2013). Indeed, they were often recovered along with other burial items, such as ostrich-eggshell beads and copper and iron bangles. Although beads have not been recovered from contexts that clearly infer their use at Shankare, glass beads were deposited in ash middens with other domestic debris.

It is of critical importance to consider glass beads in the context of their use, and in relation to an inter-artefactual domain (Gosden 2005)—that is, the artefactual “universe” within which they operated. Kuckertz (2000), in an ethnographic study of beadwork among the BaTlokwa, argues that the beadwork of the Tlokwa must be understood within the wider context of their material culture. Beads are used as part of a larger technological process, from preparing hides and leather, to working with natural fibres, to using pigments in ornamentation. His study shows that Tlokwa beadwork cannot be understood without due consideration of the other material culture with which it is associated: namely, the other parts used in the apron. It was the apron as a whole and not the beads on their own that had meaning.

In the Kgopolwe archaeological period, the use of glass beads may have been determined by their interaction within a pre-existing material repertoire—such as the existing beads and clothing technologies at use. In this way beads may have elaborated items of material culture, such as aprons, that already related to a wide range of social cues, such as gender and personhood. Doing so, the use and display of glass beads may have fitted into a social and symbolic schema that had a deeper historical genesis.

Exploring the use of these materials may be particularly important for reconsidering the valuation of glass beads in the archaeological record. Indeed, an assessment of valuation based on restricted consumption, distance from source, or number of beads may obscure the use(s) and value(s) of glass beads in the southern African Iron Age. This approach in turn forces a reconsideration of the role of imported items in exchange and consumption patterns in the political economy of the region. The following chapter considers cowrie shells, another category of material culture that has shaped reconstructions of the Iron Age political economy.

Chapter Ten:

Stringing cowries together at Shankare

“The shells I am wearing are connected to my ancestors but anyone can wear shells as protection.” (Nana Ngcobo, in Hobbs and Leibhammer 2011: 14)

10.1 Introduction to cowries in the Iron Age

This chapter considers the cowrie sample from Shankare in relation to regional connections and the identity of the crafters at the site, both of which relate to the context of producers at Shankare within the wider political economy. Cowrie shells (family *Cypraeidae*) are gastropods that occur along the East African coast and in the wider Indo-Pacific region (Branch et al. 2007). They appear in the archaeological record in southern Africa from as early as the 6th century—possibly representing some of the earliest material evidence of a connection with the Indian Ocean networks—and have been used by communities in southern Africa in varying ways up until the present. While cowries are often listed under trade items in site reports, or mentioned in faunal reports, their distribution and consumption patterns in archaeological contexts in southern Africa remain surprisingly underexplored. Furthermore, little attention has been given to the uses and valuation of cowries by Iron Age communities, both as items of decoration and items of adornment, nor to broader questions relating to the materialisation of identity in contexts of consumption. This chapter begins with an analysis of the Shankare cowrie sample before contextualising cowries at Shankare within an understanding of the evidence of the production, exchange, and consumption of this often-overlooked sea shell in the archaeological and historical record of South Africa.

10.2 Identification of specimens

20 specimens of cowries were recovered during the Shankare excavations (see Table 10. 1). Of these, 19 came from deposits associated with the Kgopolwe (10th–13th century) occupation of the site, and 1 from the terraced (18th–19th century) areas. The species of *Cypraeidae* found in archaeological contexts in southern Africa is predominantly *Cypraea moneteria moneta* and *Cypraea moneteria annulus*, with other *Cypraea* species occurring in small numbers (Tiley and Burger 2002). *Cypraea annulus*, commonly referred to as the ring cowrie, occur in habitats along the East African coast, as far south as the Kei River in the Eastern Cape, and in the Indo-Pacific more widely. *Cypraea moneta* occur in habitats along the Indo-Pacific coast and occur as far south as northern KwaZulu-Natal (Branch et al. 2005). Exact species identification is considered difficult because, in many archaeological specimens, the dorsal surfaces have been removed. However, the shape of *Cypraea annulus*, relatively ovate and rounded in comparison to *Cypraea moneta*, which has a deltoidal or pentagonal shape, is helpful in distinguishing the two species (Dance 1974: 88–94). The morphology of all the Shankare cowrie samples resembles *Cypraea annulus*, with the margins and teeth mushrooming inwards, as is typical of the *annulus* species (Dance 1974). Two size-ranges of shells were identified in the Shankare sample: a small size range of 15.48mm–16.71mm and a large size range of 23.77mm–18.22mm. Both, however, fall within the expected size range of *Cypraea annulus*: 15–28mm. On this basis, all the Shankare samples, including the specimen from the terrace excavation, are identified as *annulus*.

Table 10.1 Shankare cowrie (*Cypraeidae*) samples.

No.	Prov.	Width (mm)	Length (mm)	Broken/ Complete	Break	Dorsal Surface
SHA.M1CS.01	F2 L1	10,96	21,47	Half	Length	Back removed
SHAM1.CS.02	D3 L1	11,99	16,21	Complete	NA	Back removed
SHAM1.CS.03	D3 L1	5,57	18,37	Partial	Length	Back removed
SHAM1.CS.04	E3 L2	4,95	15,48	Half	Length	Back removed
SHAM1.CS.05	F2 L2	12,23	18,32	Complete	NA	Back removed
SHAM1.CS.06	F2 L2	6,19	16,3	Half	Length	Back removed
SHAM1.CS.07	D2L2	12,23	18,32	Complete	NA	Back removed
SHAM1.CS.08	D2 L2	7,35	20,79	Half	Length	Back removed
SHAM1.CS.09	C2 L2	9,5	14,55	Half	Width	Back removed
SHAM1.CS.10	C2 L2	8,31	15,76	Partial	Width	Back removed
SHAM1.CS.11	F2 L3	15,97	22,76	Complete	NA	Back removed
SHAM1.CS.12	D3L3	18,4	23,77	Complete	NA	Back removed
SHAM1.CS.13	D3 L3	14,11	18,22	Complete	NA	Back removed
SHAM1.CS.14	F2 L4	5,97	12,25	Partial	Length and width	Back removed
SHAM1.CS.15	E2 L4	12,5	16,71	Complete		Back removed
SHAM1.CS.16	F2 L6	4,49	15,43	Partial	Length and width	Back removed
SHAM1.CS.17	E2L2	12,02	15,82	Complete	NA	Back removed
SHABP.CS.1	D1Ash layer:10- 20cm	6,75	12,51	Partial	Length and width	Back removed
SHASTP2.2.CS.1	Daga layer	14,66	19,81	Complete	NA	Back removed
SHAT2.CS.1	A1 L1	4,15	20	Partial	Length	Back removed

10.3 Shankare cowrie sample

There were 9 complete cowries and 11 broken specimens. Of the broken samples, 2 are broken across the width, 6 are broken along the length, and 3 are broken both across the width and along the length (see Fig. 10.1 for anatomy of cowrie shells). The cowrie specimens were analysed under using an Olympus SZ stereo microscope with an attached camera, to identify wear patterns on the shells. Use-wear analysis considered the evidence of wear marks and polish on the shells, as well as the types and treatment of breakages. Guidance for the analysis of use-wear on shells is limited, but reference was made to the use-wear analysis conducted by Henshilwood et al. (2004) and d'Errico et al. (2005) on *Nassarius kraussianus* shells.

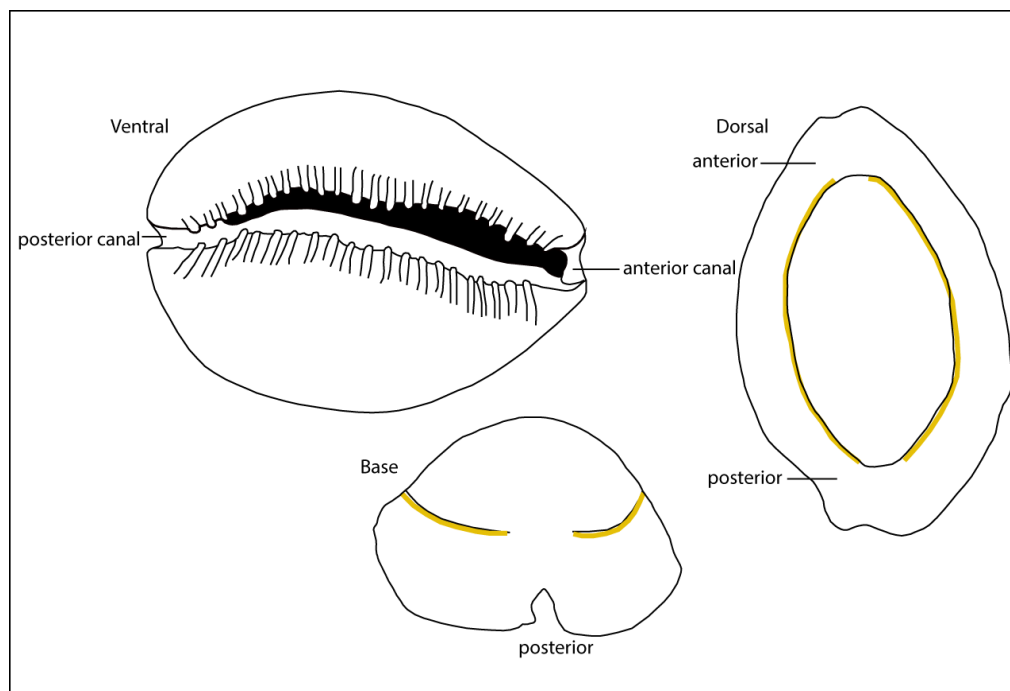


Figure 10.1 The dorsal and ventral surface of *Cypraea annulus*. Image adapted from:
<http://www.gbri.org.au/Species/Cypraeaannulus>

All the cowrie shells recovered from Shankare, both broken and complete, have had their dorsal surfaces removed. It appears that the dorsal surfaces of the shells were cut in an oval shape. All the complete cowries and those broken lengthways show dorsal breaks that are highly polished (see Fig. 10.2: 4-9). The smoothing of breaks along the dorsal surface contrasts with breaks along the width of the cowrie. There is no evidence of smoothing in these breaks; the shell surface is jagged and rough (Fig. 10.2: 10-12).

The ventral surfaces of the cowries show polish marks (Fig 10. 2: 1-3). One sample (SHAM11CS-05) was polished over existing abrasion marks. There is also evidence of wear, in the form of abrasion and high polish (Fig. 10.3) on the anterior and posterior canals of the shell. Both the canals and the corresponding area on the ventral surface of the shell show evidence of high polish. Natural striations, evidence of the shell's microstructure, are also visible in these canals.

One specimen, SHAM1.CS.12 (Fig. 10.4: 1-3), has a heavily abraded surface. Flakes of the surface of the shell are visible, and it appears that layers of the shell were removed due to abrasion. This shell appears to have been worn down, since the dorsal breaks show evidence of polish.

One partial cowrie comes from the terrace excavation, associated with the 18th–19th century occupation (see Table 10.1). This shell is broken lengthways, and has a series of fine horizontal incisions (Fig. 10.4: 4-6). These incisions appear to have been made with a tool.

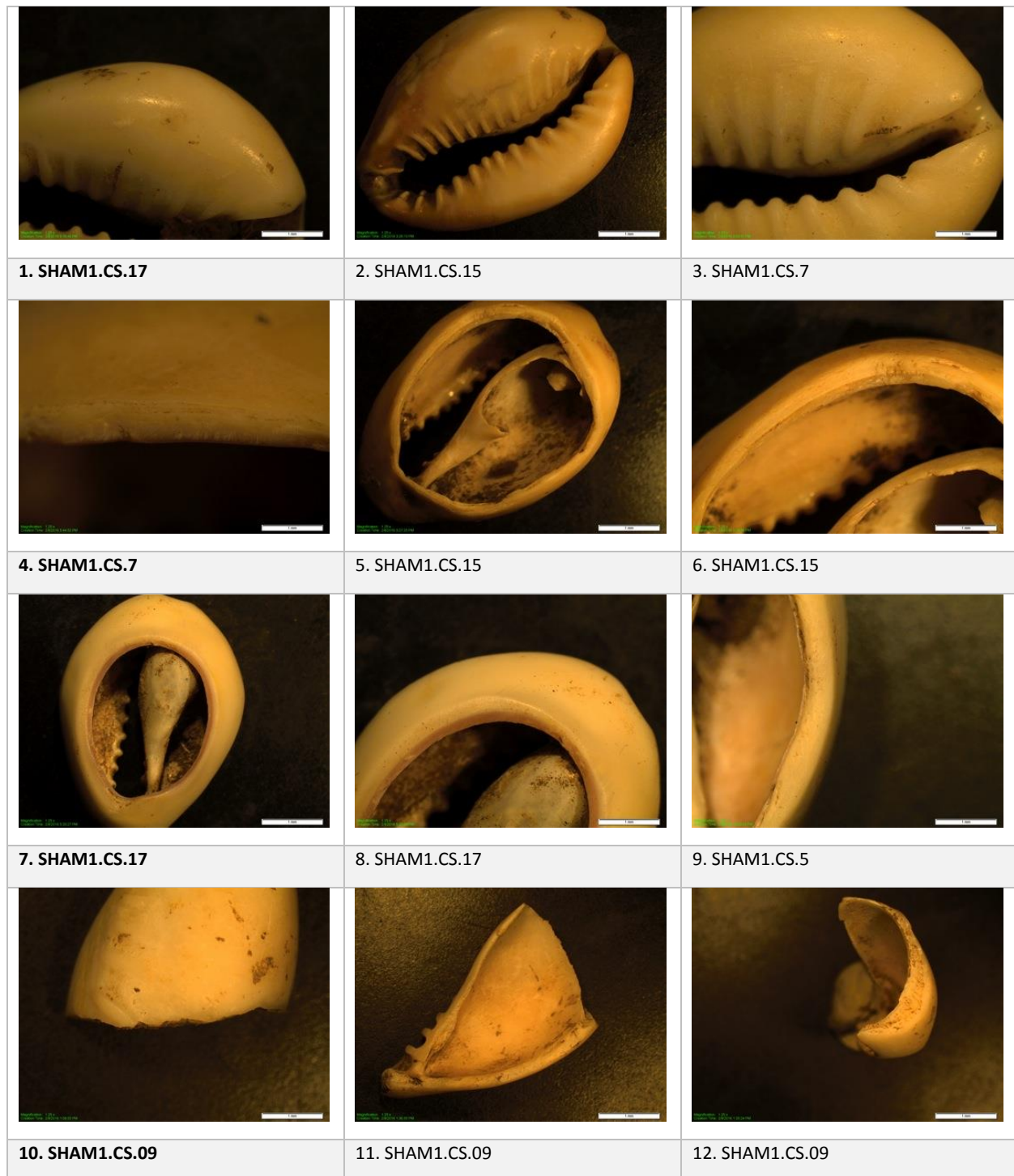


Figure 10.2 Micrographs of a selection of cowries showing different evidence of use-wear (1-12).



Figure 10.3 Micrographs of the anterior and posterior canals of cowries, showing evidence of smoothing and abrasion.



Figure 10.4 Micrographs of two samples, SHAM1.CS.12 and SHAT2.CS.1.

It is worth considering the manufacture of cowries in these contexts. Cowries are particularly hard shells (Hogendorn and Johnson 1986: 6). Removing the dorsal surface of the shell, as in the examples recovered, is unlikely to have happened as a result of natural taphanomic processes. Few examples of such breakages are found in unmodified samples, with the most common natural break occurring lengthways along the middle, since the anterior and posterior canals are weak points (George Branch, personal communication). The modification of the dorsal surface could have been effected through cutting, use of a rock, or grinding. Experimental reconstruction and further analysis would be required to test the mode of modification.

There is the strong possibility that the shells were imported into the site with broken but unpolished dorsal surfaces. For example, some breaks along the dorsal surface (such as in sample SHASTP2.2.CS.1) are not polished down, suggesting that they arrived at the site unpolished. Furthermore, a number of the samples (CS.02, CS.03 and CS.01), which are broken widthways, are not polished along the dorsal break. Breaks along the width of the shells do not appear to have been intentional, and there is no evidence of the smoothing of

these breaks. This observation possibly suggests that these cowries broke during some stage of manufacture and were thus never worn or further used, and that the dorsal break was therefore not polished. In contrast, the dorsal breaks of complete cowries indicate that these breaks were polished down, possibly through abrasion against materials as they were strung.

The high polish on the apertures of the shells may have been caused by abrasions from some substance, possibly cotton or twine string. This preliminarily suggests that the cowries were strung using a string that ran through these canals and was then secured onto a surface. Further comparisons with modern samples are needed to confirm this theory. The ethnographic parallels to this stringing practice are discussed below.

In summary, the above analysis indicates that cowries were further modified when they arrived at the site of Shankare, with the dorsal breaks on the back of the shells polished down through use or prior to use. Shells that broke across the width, possibly in the process of modification, show no evidence of use. Further comparative research on modern cowrie collections is needed to extend these preliminary use-wear observations. Little comparative literature on the use-wear analysis of cowrie shells exists, providing impetus for further research into the subject.

10.4 Comparison with other sites in this period

The collection of cowries recovered from Shankare must be situated within the context of the known distribution of cowries in Iron Age sites. Cowries appear to have been widely distributed at Early Iron Age sites, dating from the 6th to the 10th century, in many regions of South Africa as well as in northern Botswana and Zimbabwe (Maggs 1980; Mason 1981; Voigt and Driesch 1984; Plug 1989; Maggs and Whitelaw 1991; Whitelaw 1993; Plug 2000). While they are retrieved in small numbers at the majority of these sites, between 3 and 10 per site, a sizeable collection of 82 cowries was recovered from the site of Kwagandaganda, an Early Iron Age site occupied from the 7th to the 11th century (Whitelaw 1994). These cowries come from different occupational horizons, with the majority (77 of the 82) coming

from the Msuluzi phase: AD 620–780. The majority of the recovered shells were identified as *Cypraea annulus* (70), with 3 *Cypraea arabica* and 9 *Cypraea* sp. Of the 70 *Cypraea annulus*, 64 had been modified, with the dorsal surfaces removed, and the *Cypraea arabica* had also been modified (unspecified modification). A small number of cowries were recovered from the coastal site of Chibuene (*Cypraea annulus*), dated to the early occupation phase of AD 700–1000 (Badenhorst et al. 2011). 17 Cowries (*Cypraeidae*) were also recovered from Schroda in the Shashe-Limpopo basin (AD 750–900), with all their dorsal surfaces removed and polished (Raath Antonites 2014: 207). Further afield, cowrie shells with dorsal surfaces removed were found in the Early Iron Age level at Nqoma (Denbow 1990) in northern Botswana, and from Kadzi River, an Early Iron Age site, in northern Zimbabwe (Plug 1997) (see Fig. 2.1 for site locations).

Within sites occupied coevally with the early occupation phase at Shankare, cowries are recorded and often noted as trade items along with imported glass beads and other evidence of trade contacts. Voigt (1983), who analysed the faunal remains from K2 and Mapungubwe, recorded 47 cowries (*Cypraea annulus*) from the K2 (AD 1000–1250) collection, and three specimens from the Southern terrace of Mapungubwe Hill (AD 1250–1320). 41 of the K2 shells had their dorsal surfaces removed and edges smoothed. One specimen was coated with a hard red ochre layer. A group of 8 specimens associated with “beast” burials “were covered with a dark brown to black crust” (1983: 121). In three juvenile burials at K2, cowries were associated grave goods (Gardner 1963). On the Mapungubwe summit, one of the three “gold burials”, an adult man, was buried with a necklace of cowries and gold beads (Huffman 2007), and another male burial from Mapungubwe, with cowries in the pelvic area, was also recorded (Steyn and Neinaber 2000).

At further coeval sites, five *Cypraea* species were also recovered from Pont Drift (Hanisch 1980). Three cowries were recovered from the 1970 excavations at Tautswe in eastern Botswana (Welbourne 1975). Two were partial cowries, broken lengthways down the middle, and one was a complete cowrie, all three with their backs removed. Two of the cowries came from the burial area, and one from a square adjacent to a burial. Welbourne

classified these species as money cowries (*Cypraea moneta*), but this classification may warrant a revisit, given the current known distribution of *moneta*.

Cowries also occur at Late Iron Age sites, dating to the last 500 years in southern Africa, mostly in small numbers. Cowries (*Cypraea annulus* and *Cypraea helvola*) occur in small numbers on Late Iron Age sites in the Free State (Maggs 1976) and Heibron areas (Laidler 1935). Cowries are also found in small numbers at a number of Late Iron Age sites on the South African Highveld (e.g., Molokwane, Plug and Badenhorst 2006). Cowries are also recovered at Thulamela (AD 1350–1750) and a number of other sites in the Lowveld (Plug 2000). However, no cowries were recorded from Plug and Pistorius's (1999) analysis of the fauna from Phalaborwa, which covered samples from both early and later sites.

Large numbers of *Cypraea moneta* have been found along South African coastlines in association with shipwrecks, thought to be destined for use in West Africa by Portuguese merchants (Auret and Maggs 1982). Although *Cypraea moneta* occur naturally along the Mozambique coastline, and were exported along Indian Ocean trade routes from the Early Iron Age onwards, Tiley and Burger (2002) suggest that they came into use in southern Africa only after the Portuguese began trading on the East African coast in the 15th century.

10.5 Contextualising cowries in the Iron Age: Historical evidence of the production, exchange and consumption of cowrie shells

Globally, the trade in cowries has elicited much interest, since cowries were used widely across many regions for some antiquity: from as early as 3000 BC in China (Peng and Zhu 1995; Yang 2011), in the Neolithic period in many regions of the Levant and Europe (Golani 2014), and for over two millennia in many regions of the Indian Ocean rim (Hogendorn and Johnson 1986; Kearney 2004). Cowries, both *Cypraea annulus* and *Cypraea moneta*, occur in the archaeological record in predynastic and dynastic Egypt, likely used as charms and amulets (Hogendorn and Johnson 1986; Golani 2014). Both *Cypraea moneta* and *Cypraea annulus* were used as currency (Quiggin 1949; Einzig 1966), in clothing, for divination, and

widely across space and time as fertility amulets (Johnson 1980; Bascom 1980; Kay 1985; Hogendorn and Johnson 1986; Trubitt 2003; Yang 2011; Leslie 2007).

Cowries remained a feature of exchange networks in Eurasia, the Indian subcontinent, and many regions of Africa for the last two millennia. The harvesting and exchange of cowries has a long history on the Maldives islands, and the first recorded exploitation of cowries from the Maldives dates to the 9th century AD (Hiskett 1966). Travellers to the islands, such as Al-Mas'udi in the 10th century and Ibn Battuta in the 14th century, documented the intensive harvesting and exporting of large quantities of *Cypraea moneta* shells within the Indian Ocean trade networks (Hiskett 1966; Johnson 1970).

Cowries were imported via the trans-Saharan trade routes that linked North and West Africa, and were in use in the Niger Bend region from at least the 11th century, as noted by Arab geographer Al-Bakri (Hiskett 1966; Johnson 1970; Ogundiran 2002). They were also more widely used in many regions of West Africa as currency, for adornment, in ritual, and in other symbolic contexts, from the 14th century onwards (Johnson 1970). From the 16th century, European merchants imported large amounts of *moneta* cowries into West Africa via oceanic routes for use in exchange, and their use as a currency became closely associated with the slave trade (Hogendorn and Johnson 1986). The etymology of the names used for cowrie reflects the shell's transcontinental connections. The Portuguese term for cowrie, *buzios*, is thought to derive from the Maldivian *boli* (cowrie) (Quiggin 1940: 30), and an earlier term used by Europeans was *porcellaini*, which has its origins in the Roman term *porci*, (cowrie) and which later morphed into a designation for Chinese ceramics (Hogendorn and Johnson 1986: 15). Arab merchants used cowries as ballast when travelling between the Maldives and ports in India (and possibly other places), as noted by Ibn Battuta and later Portuguese travellers; this method was adopted by the Portuguese, Dutch and British merchants who came to dominate the cowrie trade from the 16th century (Hogendorn and Johnson 1986: 86).

In sub-Saharan Africa more widely, cowries, of which the *moneta* and *annulus* species are the most common, are thought to have been used as a form of currency, a symbol or store of wealth, a medium of exchange in marriage transactions, and an item of importance in a variety of contexts associated with social identity, ancestry, and rituals related to healing

(Fagan 1969; Sciama and Eicher 2001; Insoll 2011). Cowries historically were an important item of dress in many regions of Africa, used in both men's and women's clothing (Pemberton 2008), and sometimes used in adornment to delineate status (cf. Arnoldi and Kreamer 1995). Cowries were regularly used in spiritual transactions too, and are still used in divination sets in many regions of sub-Saharan Africa (Insoll 2011). In north and East Africa, beads and cowries were used as amulets and in dress, and have a wide symbolic association with the fertility of land and women (Sciama and Eicher 2001: 15). Boone (1990) has described the articulation of the value of cowries in relation to their use in a number of contexts, such as Mende ceremonies, rituals, and healing practices. The symbolic richness of the cowrie among Mende users drew from its association with the womb and from its aquatic connections (Boone 1990).

Research into the exchange, use, and role of cowries in southern African communities in relation to the global history of cowrie-use has been relatively neglected. It is thought that cowries were of relatively little importance in eastern Africa until the 19th century (Hogendorn and Johnson 1986: 17), and southern Africa does not feature at all in global reviews of the prehistoric distribution and exchange of cowries (Quiggin 1949; Hogendorn and Johnson 1986). The sources of the cowries found in southern African sites are not known. It is difficult to trace the origin of cowries to particular regions of the coast, and there remains a dearth of research on the harvesting and trade of cowries from regions other than the Maldives. Cowries occur widely along the Indian Ocean rim and in the Pacific Ocean. Both *moneta* and *annulus* occur in the same regions in varying degrees: where one species exists in large numbers, the other tends to exist in small numbers, except in the tropics where they occur in the same proportion (Hogendorn and Johnson 1986: 7). Written records do not provide further information on the harvesting or trade of cowries on the East African coast. No mention of cowries is made in the *Periplus*: although mention is made of small shells, these are thought to have been tortoise shells (Hiskett 1966: 350). Ibn Battuta, who had visited the Maldives and noted the trade in cowries in West Africa, made no mention of the shells in his visit to Mombasa and Kilwa (Hogenson and Johnson 1986: 17).

To date, there appears to be little archaeological evidence from southern African coastal sites of the harvesting, modification and exchange of cowries, although it may be difficult to

find evidence of the harvesting and processing of cowries archaeologically, particularly if processing was taking place close to the shore. There are few historical or ethnographic parallels for the harvesting and processing of *Cypraea* in any quantities along the South African coastline, although Bryant (1949: 162) recorded that certain sea shells, particularly mottled black and white cowrie-like shells, were traded into KwaZulu-Natal from the Eastern Cape pre-colonially.

Given the global distribution of cowries, it is clear archaeologically, that the shells were part of extensive and long-distance global trade networks from an early period, and the exchange of cowries in long-distance trade networks such as those that linked southern Africa with the Indian Ocean periphery would not be unexpected. The above-noted modification of cowrie shells, and of *Cypraea annulus* in particular, is not unique to southern Africa. While details of the processing and modification of cowrie shells globally remain obscure, there is some indication that this practice of the removal of the dorsal surface, a pattern found on *annulus* cowries at Shankare, may have been common to the treatment of *annulus* cowries in general (Hiskett 1966: 344; Golani 2014).

In the South African archaeological literature, cowries are often listed in faunal reports without much discussion, or under “trade goods” in the description of archaeological finds. In terms of their consumption by Iron Age communities, it has been suggested that cowries functioned as a form of “prestige”, or as an “exotic” or “luxury” good (Voigt 1983; Denbow 1990; Plug 2000; Denbow et al. 2008), although there has been no discussion regarding how exactly the shells would have materialised such values. Cowrie shells are often used as evidence of a site’s participation in external trade networks and contact with the coast, and are used to infer patterns of trade (Voigt 1983; Denbow et al. 2008). Denbow et al. (2008), for example, argued that the presence of shells at Bosutswe and other Okavango Delta sites proves their importance in trade connections. While there is some suggestion that cowries were worn on clothing, the evidence of use has been under-explored, as has the valuation of these items in relation to their use temporally and spatially.

Historical and ethnographic records in southern Africa highlight the symbolic and social values of cowries in the recent past. They are also helpful in thinking analogically about the possible uses, values, and exchange contexts of cowrie shells through time. In the 19th and

early 20th centuries, cowries played an important role in divination, and have been found in diviners' sets in different regions of southern Africa (Junod 1927 Part II: 547; Stayt 1931a; Hoernlé 1966). Junod, in describing the objects that form part of divinatory sets among Tsonga speakers, remarks that sea shells form a conspicuous part of divinatory sets (Fig. 10.5). "Sea-shells (djama, dji-ma)", he writes, "belong to two different genera: the *Oliva* shells, representing the attributes of the male, assegais, virile courage, etc., the *Cypraea* shells, corresponding to the attributes of the female, baskets, pots, pregnancy, births, oxen, lobola, etc" (Junod 1927 Part II: 547).

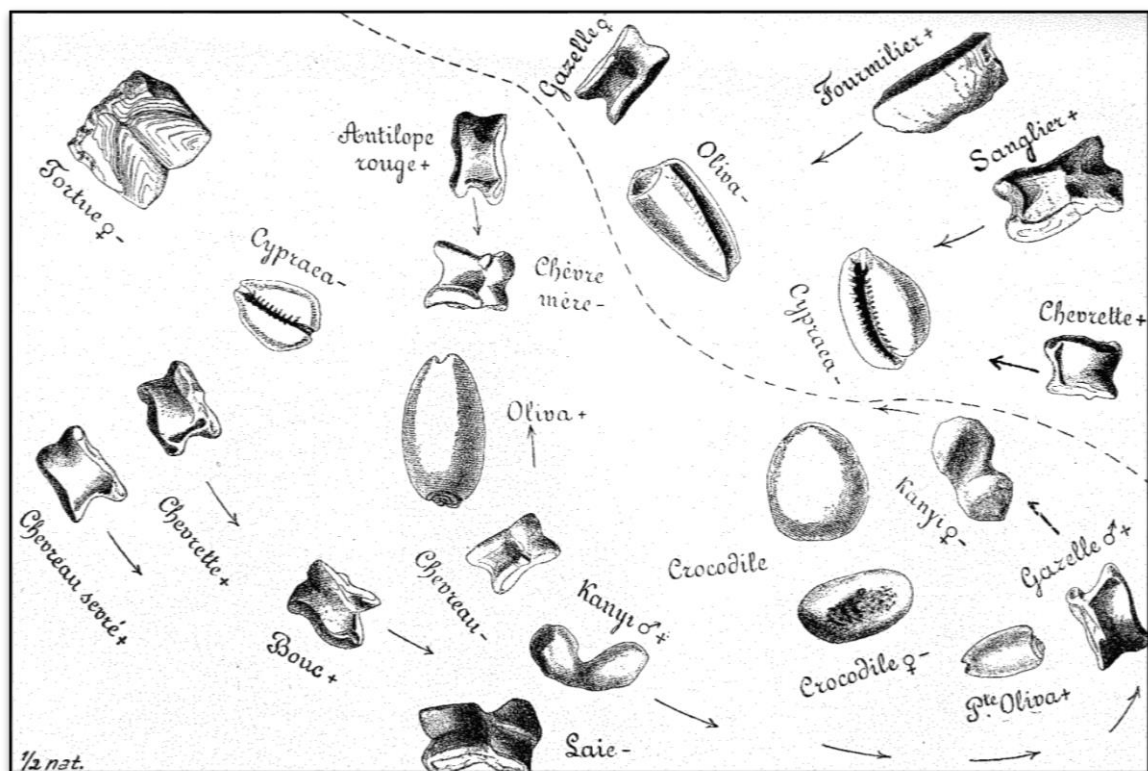


Figure 10.5 Depiction of a divination set in the interpretation of a sick mother. Junod 1927 Part II: 557.

Stayt (1931a: 293) depicts a cowrie at the centre of a Venda divining bowl. The shell in the centre of the bowl, placed on a small protuberance, is thought to represent the *mukhombo* (umbilicus), representing the mother's spirits (Stayt 1931a: 291). Similarly, Hoernlé (1966:

239) noted that sea shells were used by many communities in South Africa in divination sets, an observation corroborated by Garbutt's research (1909). Hammond-Tooke (1981: 103) observed that Sotho-, Tsonga- and Shona-speaking communities share the use of diving dice in the diagnosis of illness or misfortune, with sea shells, and particularly cowries, generally part of this set.

Among Shona speakers, healers (*nganga*) in the first part of the 20th century were often distinguishable by specific items they wore, of which cowries and/or ndoro (the perforated end of *Conus virgo* shells) were common. Gelfand (1956), in a study of medicine and magic among the Shona, observed that Ndoro shells, along with *ngundu* (the hat), *muswe* (the tail) and beads and charms, were some of the most important material items associated with healers (Gelfand 1956: 111). Ndoro were often worn by nganga around the arm or on their hat, while cowrie shells were worn as a string around the forehead, or strung with beads on a necklace. Gelfand observed that ndoro and cowrie shells are thought to have been worn by diviners to denote power in the area of fertility. Similarly, the ndoro shell, a symbol of many nganga, represented a "badge of fertility" (Gelfand 1956: 96). Neither shell was to be worn by the general public: if this was done, there was the danger of insanity.

Cowries have also been recorded as being used in adornment in southern Africa in the 19th and early 20th centuries, strung on necklaces and bracelets, and sewn onto clothing. Cowrie shells were worn in the Venda region, strung on necklaces and interspaced with beads (Stayt 1931a: 26). In the Lobedu area, cowrie shells were worked into ornaments (Davison 1984: 182). Ethnographic art collections depict the use of cowries in clothing in many regions of sub-Saharan Africa (see for example Pemberton 2008). They are often combined with beadwork, as in the Tonga *sikomoka* (skirts) from northern Zimbabwe (Labelle 2005), or sewn onto leather. However, the use of cowries may have been temporally and culturally specific, and cowries, at least in the 19th and 20th centuries, do not appear to have been as widely used in clothing in southern Africa as in central and West Africa. Explorations of ethnographic collections and records of clothing from the 19th and 20th centuries in South Africa suggest that cowries were used in small numbers, and even then were not a common part of beadwork (i.e. Stevenson and Graham-Stewart 2000). However, this observation may be due to a number of factors, one of which may have been a reflection of a collector's

bias towards beaded ornaments. Alternatively, it may also relate to the changing supply of beads, which in the 18th and 19th period became available in larger quantities in southern Africa. Beads were distributed through the Cape Colony, Port Natal and Delagoa Bay in large numbers in this period by missionaries, travellers and traders (see for example Beck 1989), and art historians have linked the proliferation of new beaded styles to this period (Nettleton 1991; Klopper 2000). The relative absence of cowries in the clothing of this period may relate to preference, availability, changing value or other selective pressures.

Today, cowries remain an important component of traditional medicine, and are also still used in regalia worn by healers (Janzen 1995; Herbert et al. 2003). Cowrie shells are thought to have protective powers, among other properties. The association of cowries with the sea also gives them magical properties, associated with a spiritual link to ancestry and healing. Among Zulu communities, water and by extension cowries are closely associated with ancestors, healing, fertility, and coolness (Hobbs and Leibhammer 2011), a connection also found among healers in Zimbabwe (Gelfand 1956: 105).

When cowries were sewn onto material or leather or attached to string, it appears that the most common technique was to string the cowrie through the anterior and posterior canals. Cotton string, twine or other material was run through these canals, and the dorsal side of the cowrie was fastened onto a surface (Fig. 10. 6). Even when hung on string with other beads, this method of connecting the cowries was still used; it appears from ethnographic records to be the most common means of modification.



Figure 10.6 Cowries strung onto a basket.

The attractiveness of the cowrie has been linked to the quality of the shell—its smooth, round, shiny white shape. The shell is hard, and naturally has a high polish (Hogendorn and Johnson 1986). Cowries are easy to handle, transport, store and turn into pendants (Clark 1986). Their derivation from the sea also creates a number of symbolic associations (Boone 1990; Hobbs and Leibhammer 2011). They have also been closely associated with fertility in many regions globally, most likely, as a number of authors have suggested, due to the similar appearance of the ventral surface of the shell to the vulva (Quiggin 1949; Hogendorn and Johnson 1986; Sciama and Eicher 2001; Golani 2014). Similarly, the resemblance of the underside of the shell to a human eye is linked to the shell's widespread use as a protective amulet (Hiskett 1966; Golani 2014).

The whiteness of cowries also fitted in with a popular colour schema in southern Africa: red, white, and black. This colour schema is rich in symbolic meaning, as evinced by the use of this colour combination—via beadwork, ochre-staining or metalwork—in clothing and adornment. The colour white has often been associated with healers (Gelfand 1956, and

others) and its importance in symbolic schema derives from pollution concepts. Pollution concepts, in particular the binary concepts of “hot” and “cool/dark”, are important in many southern African communities, and relate to what has been termed the “thermodynamic” philosophy (cf. de Heusch 1982), in which “hot” is seen as a dangerous state associated with a number of conditions, such as death, miscarriage, and liminality, and “cool” with fertility, healing, and health (Hammond-Tooke 1981: 123). White, red and black are symbolically linked to these same states, with white often associated with healing and divining, and symbolically tied in many cases to a state of purity, “coolness” and little heat. While the manifestation of pollution concepts in symbols is varying and not static (Hammond-Tooke 1981), in the recent past in southern Africa both the colours red and white have been associated with ancestry.

10.6 Discussion

Cowries first appear in the archaeological record in the Early Iron Age, and they continue to be used in southern Africa in various ways in the present. Little is known about the source of cowrie shells, both globally and locally, but according to current understandings cowries were imported into the region through the Indian Ocean trade networks that linked the east coast of Africa to the wider Indian Ocean region. The collection of cowries at Shankare, with the exception of one cowrie from the terraced excavations, largely dates to the 10th–13th century occupation of the site.

Regarding exchange patterns, the presence of cowries at Shankare was likely facilitated through regional exchange mechanisms. While the presence of items such as cowries is often used to infer a connection with Indian Ocean trading contacts, they may also have been distributed through other networks, a point returned to more fully in the following chapter. The valuation of cowries likely changed in different contexts of exchange and use. A review of the historical uses and valuations of cowries points to the many contexts in which the symbolic capital of the cowrie was articulated—specifically in relation to ancestry, fertility, healing and beauty.

The cowries used at Shankare appear to have been modified, with their backs removed and polished. This pattern reflects a continuation in modification from the Early Iron Age that may represent consumer or supplier preference, or potentially both. The use-wear analysis from Shankare, although preliminary, is the first attempt to look at the use-wear of cowrie shells in Iron Age contexts. Analysis confirms that cowrie shells were further modified at the site, mainly through polishing their dorsal surfaces and wearing down their anterior and posterior canals. As far as the causes of the polishing process are concerned, further research, including comparative samples from other sites and experimental work, is required.

However these modification patterns suggest that cowries were strung in a way that was relatively similar to the ethnographic parallels. Evidence of the processing of cotton at the site, in the form of spindle whorls, suggests that the shells could have been strung on cotton string, or otherwise with twine and sinew. Their use-wear tentatively suggests that cowries may have been used as part of personal adornment. Items of adornment may have been active in the materialisation of gender, status, age, and various other aspects of personhood (Barnes and Eicher 1992; Marcus 1993; Eicher 1995; Joyce 2005). It is possible that the cowries at Shankare, as items that were strung and worn alongside other material culture such as beads of ostrich eggshell, glass beads, cotton thread and ochre, were items through which personhood was negotiated in this period (Fowler 2011). This possibility is further strengthened by the association of cowries and burials at K2, Mapungubwe, and Tautswe, where items of personal adornment, such as copper bangles, glass beads and cowrie shells, were deliberately placed in burials (Welbourne 1975; Huffman 1996; Steyn and Nienaber 2000).

How these values and properties enacted personhood remains to be further explored. Material culture is active in the construction of identity, a dialectical process both in terms of the manipulation of the symbolic capital of artefacts in specific contexts, and the ability of these artefacts to exude particular meanings. Further, symbols may change in relation to other symbols. Cowrie shells are items that can convey, transmit and embody personal qualities, with fertility being one example. How the value of cowries was articulated in the context of Shankare may vary greatly from their articulation at Mapungubwe. However,

some properties of the shells, as well as the different contexts of their use, can possibly suggest similarities in the valuation of cowries across the two sites, as well as the potential that cowries were used as an object of adornment in the construction of self.

Their presence throughout the Iron Age sequence does not necessarily reflect a continuity in use and value, and it is important to consider both the continuity and the change in production, exchange contexts, usage, and possible valuation throughout the Iron Age. Ogundiran (2002) documented the changing role of cowrie shells in the political economy of the Bight of Benin from pre-European mercantile contact to their widespread use as currency between 1650 and 1880. He traced the valuation of cowries in the later period to the historical roots of their usage in pre-1650 Benin, where they were used as “objects of social capital” (Ogundiran 2002: 429), thus situating their valuation within the context of existing structures of meaning. The singular cowrie of the terraced-level excavations, associated with an 18th/19th century occupation of the site, may represent a different use and valuation. The unique modification of this shell, with incised striations along the edges, requires further consideration, especially in relation to other cowrie assemblages from this time period in southern Africa.

10.7 Conclusion

The demand for cowries in the Iron Age appears to have been selective, and negotiated according to particular contexts of use that varied over time. The properties and associated values of cowries may have determined their use in particular contexts. The sample from Shankare indicates that the distribution of cowries within interior southern African communities was not limited to “elite” sites. Along with the distribution of glass beads, this finding has potential implications when considering Shankare within the context of the wider political economy. A singular association of the value of imported items in relation to their source may further obscure the differences in valuation in contexts of use. These issues are directly addressed in the following discussion chapter.

Chapter Eleven:

Discussion

“If economic activity is embedded in multidimensional social processes (Peters 1987: 181ff), questions raised by historians and anthropologists about the fluidity and ambiguity of African cultures are also relevant to the study of economic processes in Africa. In particular, there is no reason to assume that farms, economic ‘decision-making units’, and farming systems are any less fluid than other African social institutions.” (Berry 1993: 6)

11.1 Introduction to chapter

At the beginning of this thesis, I outlined the need to study the political economy of the southern African Iron Age from different, multi-scale vantage points, addressing the identity of producers and consumers on the wider landscape. For the purposes of the study, I chose a metal production site in Phalaborwa to interrogate dominant models of the political economy from a localised perspective. Phalaborwa provided an important case study for considering diachronic changes in production, and the broader political economy. As outlined in Chapter 2, there are a number of ways to approach craft producers in the broader discipline of archaeology. It remains less important to identify specialised versus unspecialised production—a focus of considerable research in earlier craft production studies. Rather, there is a need to characterise the organisation of production more broadly. To this end, it is of value to explore the identity of craft producers, the organisation of production, mechanisms of exchange, and the consumption of craft products within an interrelated system of the political economy (Costin 1991, 2001, 2005, 2015; Hagstrum 2001; Sinopoli 2003; DeMarrais 2013). It is essential that studies of this nature be situated within the array of social and political relations embedded in crafting, including the intersection of technologies and labour (Hagstrum 2001; Mills 2007), as well as the domestic economy (Hirth 2009: 13). Exchange and consumption patterns also provide an important

avenue for assessing human interaction within the region. Examining these patterns facilitates the study of craft producers within the organisation of a society. With that context in mind, this chapter explores the implications of the present study on understanding producers within the political economy of the southern African Iron Age.

11.2 Shankare craft production

Phalaborwa has been widely cited by ethnographers, historians and archaeologists alike as a locus of “specialised metal production” (Junod 1927; Stayt 1931a; De Vaal 1942; Scully 1978; Davison 1984; Harries 1994; Pistorius 1989; Miller et al. 2001; Delius et al. 2014). What is often not clear in this literature is the organisation of this production and how specialist producers fitted into the regional political economy. Furthermore, the nature of specialisation is often considered apparent or self evident in the term, without further exploration deemed necessary. To develop a long-term perspective on these issues, this thesis addressed the organisation of production and the context of Phalaborwa within the regional political economy in the historical period (AD 1700 – 1900), before moving back in time to the earlier archaeological period (AD 900-1300).

With respect to the historical record, an important starting point is the organisation of production in relation to the parameters of concentration and context (Costin 1991, 2001). Metal production at Phalaborwa took place around a point source for ore. Over 30 locations, predominantly habitation sites built on the terraced slopes of syenite hills, are associated with metalworking in Phalaborwa between the 18th and 19th centuries (van der Merwe 1971; Pistorius 1989; Miller et al 2001). The organisation of metal production in this occupational period at sites like Shankare indicates that production was concentrated within domestic spaces in homesteads close to the mine (van der Merwe 1971; Pistorius 1989; Meyer 1984; Evers and van der Merwe 1987; Plug and Pistorius 1999; Miller et al. 2001). This metal production included both the primary and secondary working of copper and iron.

This concentration of metal production sites around ore sources is not unique to Phalaborwa. Numerous furnace precincts were documented in close proximity to the 'Iron Mountains' in Tshimbupfe (Mathoho et al. 2016) and Mamadi (1940) discussed a similar phenomenon in Musina, with copper production taking place in close association with the copper mines. Further afield on the Highveld the 19th-century town of Marathodi (Hall et al. 2006) was similarly located adjacent to the nickel-copper sulphide pipes that were exploited by the copper producers in the town. Where metal was produced around ore sources, historical records identify specific groups that were associated with production. In particular in both Phalaborwa and Tshimbupfe specific lineages were associated with copper and iron production. Similarly, the Lemba, occupying regions of the northern Lowveld, were closely associated with iron and copper production, particularly in the context of the Venda region.

Exploration of the historical record indicates the variable ways production was organised within the Lowveld. In particular differential task distribution was historically an important feature of metalworking, with different people collecting ore, smelting and smithing (Stayt 1931a, 1931b; Mamadi 1940; Miller et al. 2002; Mathoho et al. 2016). Although the Lemba, baPhalaborwa, Musina and Tshimbupfe metalworkers clearly produced more metal on a specialised scale, production was not only limited to point sources, but also took place on smaller scales in the wider region. Historically in the Lowveld, persons could travel directly to mines and exchange ore for other goods (Krige 1939b; De Vaal 1942; Davison 1984; Miller et al. 2002). These were then smelted in other regions, which often lacked ores. For example the baPhalaborwa supplied ore to neighbouring communities, such as the Tlhabine and the Lovedu (Du Toit 1968: 60). Production in these contexts may have been more dispersed, and potentially less visible. However at the site of Square, located some 19km from Phalaborwa, iron ore sourced from Lolwe Hill was smelted in large quantities (van der Merwe and Killick 1979). The site of Square is linked historically with the baŠai (Sotho), who were not directly associated with the baPhalaborwa.

These observations have direct relevance to the issues of who controlled ore sources and who controlled the distribution of the ore from mines. There is no evidence that metal production or consumption in the Lowveld was controlled by ruling lineages and elites or

political entities such as the Venda state. Historically the same metals, such as copper, could be produced by independent dispersed specialists (cf. Costin 1991) such as Lemba, and along lineage or community lines in the case of the baPhalaborwa and Tshimbupfe clans. Importantly, aspects of resource ownership may have manifested in ideological assertions of land ownership, based on a principle of firstcomer/newcomer. However, these ideological assertions did not necessarily translate into economic control over resources or producers. While production in Musina, and amongst Lemba metal workers, fell in a region that has conventionally been associated with the Venda state, there is no evidence of control over production, exchange or consumption of metals in these contexts.

Distribution and consumption are very important elements of the political economy of metal production at Phalaborwa and in the Lowveld in general. The historical review of exchange systems in the Lowveld in Chapter 3 provides additional insights for considering the redistribution of locally produced items, such as copper, and the incorporation of Phalaborwa producers within networks of exchange. Within the Lowveld historically, locally manufactured goods, such as copper, grains, salt, ivory, cattle, and other domesticated animals, as well as imported goods, such as glass beads and cotton cloth, were exchanged interchangeably (Smith 1970; Evers 1974; Harries 1994; Delius et al. 2014). Metals could be exchanged for perishable goods, such as cattle and grain, as was the case historically in Phalaborwa (Scully 1978; du Toit 1968). Tsonga merchants, as independent traders, also played an important role in distributing both local and imported items widely in internal trade networks. In this period, trade was not highly centralised, nor was the distribution and consumption of items limited to particular individuals. Instead, exchange was often facilitated by different mechanisms, including barter, tribute, and marriage. Much of the exchange was embedded in social relations, ensuring the continuity of social and political alliances.

Commodities, such as copper, were not restricted to the consumption of chiefs, but were circulated in overlapping exchange systems that facilitated the flow of cattle, grain, ivory and other metals. Historically, there is no evidence for the excessive 'wealth' accumulated by politically powerful groups or individuals in the form of large quantities of beads and

metal items. Furthermore, while itinerant traders like the Tsonga facilitated the increased flow of items between the coast and the interior, there were no restrictions on the distribution or consumption of items. The value of locally produced items also dictated the conditions of trade in the historical period. For example, in the 18th and 19th centuries, as trade increased between the European merchants at Delagoa Bay and coastal communities and the Lowveld interior (Junod 1927; Harries 1994), European traders utilised local value systems, in which iron items such as hoes were replicated and imported (Harries 1994: 86).

Furthermore, the historical evidence for Phalaborwa and the Lowveld presents a nuanced picture relating to the organisation of production and gendered participation in technical and quotidian practices. Task differentiation and the scheduling of activities formed important components to the organisation of production. Historical evidence of regional specialisations in agricultural areas like the Lovedu region indicates the contextual negotiation of labour practices in southern African societies. While agriculture has primarily been considered the domain of women, men in the Lovedu region helped with clearing and weeding the land, as well as participating in work parties to hoe communal land and individual fields (Krige and Krige 1943; Hammond-Tooke 1981). Similarly, in the Lowveld, women fetched ore and most likely participated in the facilitation, both directly and indirectly, of metalworking activities (De Vaal 1942: 48). A reconsideration of the historical variation in many traditionally gendered activities in southern Africa indicates the negotiation of scheduling was based on a variety of interrelated, often historically contingent, factors. For example, amongst the Njanja of southwestern Zimbabwe women and children assisted in the preparation of ores and charcoal, in mining and also participated in smelting in times of high demand (Chirikure 2005).

The delimited association of metalworking with male activities and agriculture with female activities reflects the problematically binary construction of male and female production activities in pre-colonial African economies (Guyer 1984, 1986; Berry 1993). Guyer (1984) has shown how the organisation of labour and the resultant socio-political relations of domestic labour varied widely in pre-industrial African production. These variabilities were often related to changes in production relations on the micro, homestead level (Guyer

1986). The evidence of the historical scheduling of activities, such as hoe agriculture and metalworking in southern Africa similarly indicate that gender roles in many cases were variable and not fixed.

While metal production in Phalaborwa clearly occurred on a specialised scale, in terms of surplus production beyond the needs of local consumption (Costin 1991:21), the nature and scale of specialised production in Phalaborwa may have varied when compared to classic examples of specialised metal production elsewhere. Indeed, it is clear that historically the organisation of production was also scheduled alongside other activities. Aside from producing metal for exchange, communities in Phalaborwa also undertook a range of other activities, including crafts such as pottery and beadwork, hunting, agriculture, and the collection of wild foods (Krige 1937a; Scully 1978; Du Toit 1986). These activities were supplemented by exchange in grain, cattle and other goods with communities in the wider region (Krige 1937; Davison 1984). Furthermore, production may also have been scheduled seasonally. In many historically documented cases in southern Africa, mining and metallurgy were often done in the dry season, when communities were not farming, while smithing may have taken place all year round (Beach 1977, 1984; Mudenge 1988). Although no mention of seasonality is made in the baPhalaborwa oral histories, it may likely have influenced the scheduling of agricultural and metal production activities.

Table 11.1 Summary of elements of specialisation in the historical period in the Lowveld.

Element of specialisation	Phalaborwa (Metals)	Lemba (Metal and pottery)	Lobedu (Agriculture)	Tsonga (Trade)
Concentrated production	X		X	
Dispersed production		X		X
Lack of political control	X	X	X	X
Scheduled specialisation	X		X	
Distribution of distinctive objects	X	X		X
Male and female participation	X	X	X	(Unknown)
Itinerancy		X		X

The context of producers in the Lowveld (Table 11.1) reveals that economic activities, from production to exchange, were decentralised. This in turn relates to the heterogeneous, decentralised political landscape of the area, characterised by a complex web of social and political relations that connected different communities across the region. Indeed, the contextual negotiation of the organisation of production and distribution in the historical period suggest the presence of a political economy characterised by fluidity and contingent adaptation within the context of different political formations.

11.3 Phalaborwa and metal production in the archaeological period

A historical consideration of the elements of metal production within the context of the political economy of the Lowveld has highlighted the contextually contingent nature of specialisation. This variation in production strategies was clearly related to the socio-political context of the Lowveld communities. The big question, however, is how was metal production organised in the deeper past? Any attempt to understand this becomes

inherently limited by the surviving evidence. Spatial patterning—the identification of settlements and production locales—is key to a consideration of the archaeological evidence of craft communities (Costin 1991, 2005; McIntosh 2005; Lyons and Freeman 2009).

A combination of excavations, test pits, and surveys show that the 10th–13th century occupation of Shankare extended across much of the northern flats adjacent to the hill. The dates from the ash midden associated with the Hut Floor excavations, the Burrow Pit midden, and the lowest levels of Midden 1 suggest that occupation of this area already took place at the beginning of the 11th century, and lasted for a 250-300 year period. As with all archaeological research that requires sampling of selected areas (Schiffer et al. 1978), it is difficult to reconstruct the layout of the entire settlement. Nevertheless, sampling across the site showed the presence of domestic contexts typically associated with homesteads of Iron Age communities (Maggs and Whitelaw 1991; Huffman 2007), in the form of ash middens with domestic debris, evidence of hut floors, other permanent structures, and burials. Metalworking debris was recovered from excavated areas across the site, primarily in midden contexts. These materials contain evidence of the full stages of the production of copper, indicating that copper was both smelted and smithed in domestic contexts.

To date, three archaeological sites from this period have been identified in Phalaborwa: Kgopolwe, Nagome, and Shankare. These sites were all located within a 7km radius of Lolwe Hill, the source of copper and iron ores. The concentrated nature of production debris at Shankare is similar to that at Nagome and Kgopolwe where copper production was performed at homesteads within close proximity of the ore source. The lack of differentiation in the patterning of sites around Phalaborwa into ‘industrial’, ‘domestic’ and or ‘distribution centres’ points to a form of community specialisation (Costin 1991: 8) in the first half of the second millennium AD. This implies that producers were working within domestic settings, either as individual household units or on an aggregated settlement scale, as well as producing for broader exchange and consumption.

In relation to craft production in the archaeological record, control has been considered in terms of ‘context’ (Costin 1991), framed in terms of attached or independent specialists

(Earle 1981; Brumfiel and Earle 1987). The current study of copper producers at Shankare and Phalaborwa provides an important dimension in assessing the context of producers in the 10th to 13th centuries in southern Africa. The concentration of domestic based manufacturing debris at Shankare, with no associated evidence of control, conforms to the expectations of “independent community specialisation” (Costin 1991: 626).

Crafting techniques are often considered in light of the degree of skill, with specialised tools and technologies (Arnold 1987) and the standardisation of products (Rice 1981) regarded as indicators of specialisation. Research undertaken as part of this thesis, combined with earlier studies, suggests that copper producers at Phalaborwa in the early second millennium AD had developed a production process that resulted in the extraction of almost pure copper from a complex ore body (Miller et al. 2010; Thondhlana 2013; Thondhlana et al. 2016). Quantification of the evidence of copper production at Shankare indicates that the output was likely greater than the need for local consumption. However metal production was clearly scheduled alongside other activities. Archaeological evidence from Shankare suggests that some of the craft activities that would have required scheduling were pottery production, and spinning of cotton, alongside the procurement of food by means of hunting and farming. Metallurgy and pottery are both pyrotechnical processes that share many technical similarities, including the transformation of materials by applying heat (Killick 2016), and historically have often been subject to similar ritual prescriptions (Gosselain 1999). Indeed, in West Africa, endogamous craft metalworking specialists were often married to specialist potters (Tamari 1991: 224). Lemba men were historically associated with metalworking and women with potting (Stayt 1931a). The organisation of production in this way may have been economically beneficial for both crafters, but may also have been linked to social status, which in turn shaped the technological choices, not only of men but of the whole family or community (Tamari 1991; Gosselain 2000; Haour 2013).

The study of metal working at Shankare indicates the contextual negotiation of various principles that shaped the organisation of production, with production taking place in domestic contexts with evidence of cross-crafting and the scheduling of activities. The similarity between crucibles and domestic pottery at Shankare suggests that potters manufactured domestic pottery that was reused as crucibles, as well as making purpose

made vessels for metallurgy. These processes suggest that there was interaction, feedback and cross-craft overlap between metalworkers and pottery makers, which is a material expression of evidence that these crafts clearly complemented and influenced each other. Similarly, the recovery of spindle whorls made of domestic pottery would have required recycling and reuse, either with the help of potters, or with new methods.

The organisation of production at Shankare has implications for the gendered models of metallurgy and crafting in the Iron Age past in southern Africa, indicating that current models of the organisation of household labour in the past, drawn from normative ideas from ethnography, may have varied. Labour relations in archaeological contexts associated with metalworking must consider the craft system as a totality, bearing in mind that the process involved multiple composite stages, such as the mining, fetching and beneficiation of ore, as well as smelting, smithing and casting. These technical steps involved the use of different tools, spaces, and, possibly, labour sources. As LaViolette (1995) has argued, the role of women is often overlooked in studies of craft production, and particularly metalworking in African archaeology, whether in the underrepresentation of the smiths' potter wives, or more broadly in the social role of women in relation to craft. Given the observed changes in subsistence strategies among Iron Age communities throughout the first and second millennium AD in southern Africa (Maggs 1984), it is most likely that gender based participation in crafts was variable and contextually negotiated in the deeper past (cf. Geller 2009: 69).

11.4 Shankare within the context of regional connections

The organisation of metal production is integral to the identity of craft producers at Shankare. Given that production was done within the homestead, and likely involved the whole community in different ways, it is important to consider the materialisation of identity on different scales. The symbolic significance of metallurgy as a potent, transformative process has manifest itself in the identification of crafters as variously socially powerful and/or despised, and bearing high or low status (Vaughan 1970; de Maret

1980; Sterner and David 1991; van der Merwe and Avery 1987; Tamari 1991; Child and Killick 1992; Haour 2013). A widely documented form of identification was the delineation of craft producers into endogamous groups (Sterner and David 1991; MacEachern 1994, 2005; Langlois 2005, 2006). In some cases, the social processes that underlay the identification of crafters related to broader social strategies, such as the negotiation of authority over land in firstcomer/newcomer relations. In other contexts, metalworkers were hereditary groups (de Maret 1980; Childs and Killick 1992), while in other cases there may have been no socially visible differentiation between craft producers and the general populace (MacEachern 1998).

It is vital to consider the identity of crafters within the socio-political context in which they developed and were embedded. Importantly, LaViolette (1995) has demonstrated how the negotiation of the identity of craft persons in Djenné in Mali was not static, but rather an ongoing process. Similarly, crafting identities must be considered in conjunction with other potentially overlapping or contrasting forms of identification, such as language, regional political affiliation, or ethnicity in its broadest sense. The variation and interplay of these forms of identification may be important in considering the use of craft in the negotiation of socio-political relations. As Haour (2013: 100) has noted in relation to metalworkers and identification, in certain contexts ethnicity was more malleable than crafting identities.

An exploration of the various socio-political contexts in which producers historically operated in the Lowveld indicates the ways in which identity was negotiated in these scenarios, and highlights the limits of models that associate metalworking with a specific *de facto* social status. The contrast between the Lemba clans in Venda, the ironworkers of Tshimbupfe, and the metalworkers of Phalaborwa indicates the various ways that metalworking was associated with social status. While the Lemba were endogamous crafters with a particular historical identity, the baPhalaborwa and Tshimbupfe metalworkers were exogamous and socially connected with communities in the region. This contrast further suggests that caution should be applied in the archaeological identification of a crafting identity.

In southern African Iron Age archaeology, the identity of communities has been largely examined through ceramic studies (Huffman 1980, 2007). Ceramic decoration in both

periods at Shankare has shown the variable degrees to which decoration may relate to identity. The Letaba ceramic style was used widely within the Lowveld. As a historical review of the political economy has shown, there was a widespread flow of people and a network of ties that connected different communities in the region. These connections may be facilitated by the widespread use of Letaba ceramics. The same may be true of the earlier Kgopolwe ceramic style. A comparison of the Kgopolwe and Eiland ceramic styles indicates a large degree of similarity. The similarity of the Kgopolwe and Eiland ceramic styles may have facilitated interaction and social networking in the context of a lower population density in this period. Some of these social relations, as explored in Chapter 3, may relate to kinship connections, marriages or political ties.

Consumption patterns are another avenue for assessing individual, communal and regional identity. Excavations undertaken at Shankare revealed that cowrie shells and Mapungubwe-series glass beads were consumed by the occupants of Shankare in the early occupation period (AD 900–1300). The presence of spindle whorls at the site further indicates that the technology of spinning cotton was present at Shankare by the 13th century. In southern Africa, imports such as glass beads and cowries, together with the technology of cloth production have often been viewed as indications that the occupants of sites in this region were participating in external trade connected to Indian Ocean networks (Huffman 2009, 2010; Woods 2000, 2012; Calabrese 2000; Miller 2001; Denbow et al. 2007). In dominant models of the political economy of this period, the power of early states derived from their monopoly of the Indian Ocean trade in ivory, gold, skins, and the corresponding imports of glass beads, bronze, and cloth (Huffman 1982, 2009: 304–305), akin to a prestige-goods system (Freidman and Rowlands 1977: 224). The consumption of imported items is seen to have played a significant role in the development of an elite identity (Calabrese 2000; Denbow et al. 2007; Woods 2012; Denbow et al. 2015).

However, this picture is not consonant with data from Shankare. According to the model outlined above, the “hinterland” or “commoner” sites, and sites beyond the spheres of early states, should have had little or no access to prestige goods, particularly if these sites exhibited no evidence of being regional elite centres. Shankare appears to have none of the characteristic traits associated with a complex site of this period, such as stone walling, a

hilltop settlement, or evidence of a large population (Huffman 2009; van Waarden 2011; Chirikure et al. 2016a). Given the scale and location of metalworkers at Shankare, it is unlikely that the presence of imports at the site indicates that these were political elites, or that they were in direct contact with political elites further north.

Models of the distribution and consumption of imports in the early second millennium AD were based largely on research at large-scale “elite” sites. However, studies of sites such as Shankare indicate that more research into the distribution of imports throughout the broader region is needed. A recent review of the distribution of imported items in the southern African Iron Age indicates that these items are found at “commoner” sites, both within the area conventionally considered as within the Zimbabwe culture states, and beyond (Antonites 2012; Moffett and Chirikure 2016).

In light of research at Shankare, some preliminary suggestions about exchange mechanisms can be made. First, the pattern of exchange evident in the second millennium may be an intensification of systems in the first millennium, during which imports fit into pre-existing trade networks, along with copper, iron, salt, marine shells, specularite, ivory, and possibly a number of other goods, that spanned great distances (Huffman 2000, Denbow et al. 2007; Wilmsen 2009; Woods 2011; Denbow et al. 2015). Secondly, the historical review of trade in the Lowveld region provides an important model for understanding exchange in relation to the multiple overlapping spheres between local, regional and global connections.

The importance of “internal” economics in complex societies has often been overlooked (Bhan et al. 1994; Stein 1998; Smith 2005). Indeed the delineation of exchange into two contesting spheres: “internal” and “local” or “external” and “global”, may distort the mechanisms of exchange in the archaeological past. Evidence from Shankare, a copper-production site, suggests that copper was produced for exchange within a wider regional network. The location of Phalaborwa makes it likely that copper was traded within a regional exchange system that facilitated the supply of both imports and indigenously manufactured items. Some of these items may have been perishable, such as salt, and agricultural produce. However, the evidence of exchange in items like glass beads and cowries at Shankare indicates that these communities were likely located on a node of a much larger exchange network, which may have linked other sites, such as Harmony,

Mutamba, and so on. Internal networks were clearly able to facilitate the exchange of imports and the interchange of glass beads with salt, ivory or copper, in mechanisms that may not have been so dissimilar from the historical period.

This model of redistribution has further implications for the conceptualisation of wealth accumulation, in both the historical and archaeological periods. Huffman (1982, 1998), drawing from Kuper (1982), has argued that cattle were the traditional form of wealth in Iron Age communities, and, because of their social significance, were used in bridewealth exchanges by agriculturist communities in South Africa from the Early Iron Age. However, it is argued that, from the 10th century, imports became a new form of wealth (Huffman 1982, 2000, 2009, 2010; Robertshaw et al. 2010; Wood 2012), which had the ability to change the socio-economic system (Huffman 1982). Imported goods, in contrast to cattle, could be stored and accumulated, giving rise to social stratification (Huffman 1982: 143), and a new settlement pattern and state system developed, referred to as the “Zimbabwe culture”.

The conceptualisation of wealth again underscores the often-overlooked variability in the economic strategies of communities in pre-colonial southern Africa. Contrary to the delimited association of cattle and bridewealth, cattle, copper and imported items were historically exchanged in the Lowveld, and used in complementary and overlapping transaction spheres. For example, hoes, copper, brass bangles, cowries, cloth, and various other items were also used for bridewealth; indeed, this practice was common across southern African farming communities (Bryant 1949; Hunter 1969; Junod 1927; Harries 1994; Earthy 1933).

Importantly, a review of exchange and consumption historically indicates that, while particular items were highly valuable, their value derived not necessarily from restricted consumption, but rather from the social context of exchange and use (Kopytoff 1986; Appadurai 1986). Items passed through a number of transactions, from their manufacture to use, reuse and deposition. Evaluating the significance of locally produced and imported items requires a shift in focus to how these objects were used, and the meanings they were imbued with in different contexts, untangling the multiple and complex relationships objects have with other objects, spaces and people (Gosden 2005; Ingold 2007). In relation

to copper, iron and imports, it is important to consider how the exchange and consumption of items may have created, facilitated or maintained social relations (cf. Weiner 1985; Thomas 1991; Gell 1998). Items such as cattle, imports, and metals may have been redistributed in extensive social networks, where their use was more important to creating alliances, affiliation, and, in some cases, a following. This kind of redistribution of goods is comparable to the notion of wealth-in-people, whereby goods were exchanged in order to establish inter-personal relations, rather than in accumulation strategies (cf. Guyer 1993; Guyer and Belinga 1995).

A study of the consumption of items of Shankare in the early occupational period also has implications for models of the wider political economy at the time. The deposition and consumption of glass beads and cowries at Shankare indicate that these items may not necessarily reflect the “materialisation of an elite ideology” (Loubser 1991; Calabrese 2000; Wilmsen 2009; Wood 2012), but instead suggest the need to consider consumption patterns in relation to the articulation of value amongst southern African Iron Age communities in this period. Indeed, as shown in Chapters 9 and 10, glass beads and cowries historically were active in the materialisation of identity in numerous ways. The historical context, by no means similar to the deeper past, can nevertheless help in providing a platform from which to contrast and interrogate the deeper time archaeological record.

The use and valuation of cowries and glass beads at Shankare archaeologically suggests these materials were incorporated into the daily practice of consumers at the site. Glass beads and cowries appear to have been strung and used in decoration, likely alongside other beads such as ostrich eggshell beads, also recovered from the site. Although speculative, their use and deposition at Shankare points to their valuation as embedded within adornment (Barnes and Eicher 1992; Marcus 1993; Eicher 1995; Joyce 2005). Similarly, the consumption of items may relate to both group and individual social signalling. As DeMarrais (2013: 5) emphasises: “Beyond the individual, objects situate people within social networks, materialising collective relationships across time and space.” What needs to be addressed are the possible shared values that the exchange and consumption of these items express, and how these potentially relate to, or differ from, other expressions of shared values, such as housing styles or ritual practices. Indeed the widespread use of

ceramic style in both occupational periods at Shankare may be a further expression of the materialisation of shared values within wider social networks.

Along with the use of imported materials like glass beads, communities in Phalaborwa were also engaging with new crafts, such as cotton spinning, evident in the presence of spindle whorls at the site. The technology of cotton production, thought to be diffused through contact with the Indian Ocean coast in the 10th to 13th centuries, has been closely associated with “Zimbabwe culture” elite sites. However, the presence of the technology at Shankare, along with other smaller sites in the 13th century, indicates the need to reconsider the spread of new technologies in southern Africa. Recent studies have demonstrated the variable, non-linear “ebb and flow” in which innovations often spread (Robb 2013; Knappett and van der Leeuw 2014). Furthermore it is of importance to consider how the widespread distribution of technology facilitated social interaction, and how pre-existing social networks were the conduits through which innovation was distributed in the first place. (Gamble 2004; Knappett 2013).

The introduction of the innovation of cotton production and the importation of glass beads and other materials through Indian Ocean trade networks has been modelled in relation to worlds systems theory, indicating a dependency of interior elites on imported trade items (see for example Killick 2009; Wood 2012). However, this approach overlooks the importance of addressing the valuation of imported goods and technologies within the social context of interior communities. Indeed, it is likely that both cotton production and glass beads were incorporated into a symbolic schema that related to their use alongside other materials such as ostrich eggshell beads, and their context in the materialisation of identity. Similarly Donley-Reid’s (1990) study of Chinese porcelain and glass beads on the Swahili coast revealed how the value of these imports derived from their conditions of use, particularly as protective powers for women (Donley-Reid’s 1990: 50). The negotiated valuation of imports in the context of local use may also explain why the uptake of imported goods and technologies into southern Africa was varied and non-directional. Indeed while bronze, certain types of glass beads and cotton cloth were imported and used by interior communities, other items available along the coast, such as Asian porcelain, had a low uptake by interior communities (Chirikure 2014). While explanations have tended to focus

on the lack of availability of these items for interior communities, it may well be that some items did not resonate with local systems of meaning and value.

11.5 Discussion: Power and control over resources in the southern African Iron Age

In the southern African Iron Age, approaches to political complexity have been influenced by particular conceptualisations of the state and of “complex societies”. In dominant models of complex political systems, economic and political control are strongly correlated (Hass 1982; Renfrew 1996; Price and Feinman 1995, 2010; Earle 2011). In particular, the basis of power as control over surplus and the generation of surplus to facilitate wealth are often seen as critical in the development of socio-political complexity. Similarly, dominant power structures of early states emphasise a hierarchical political structure, with a central place controlling a periphery or region in a series of stepped power relations (Flannery 1972; Wright and Johnson 1975; Friedman and Rowlands 1977; McGuire 1983; Renfrew 1996).

These models clearly apply in some contexts. For example in social formations such as ancient Egypt, the army supervised gold production in the Eastern Desert (Klemm and Klemm 2012). However, this power model does not fit well with the existing data from Phalaborwa. Indeed, explorations of resource extraction indicate that the political economy of the 10th to 13th century period in southern Africa was not characterised by high degrees of control over resources like copper.

In both the historical and archaeological analysis of metal production in the Lowveld there is no clearly discernible linear chain of hierarchical control along the *chaîne opératoire* of metal production, from point sources of ores, through smelting sites to metal smithing areas. Equally, neither did this production chain fall under the direct control of social formations such as states (such as the Venda or earlier Zimbabwe states) nor those who were under levels of socio-political organisation other than states (such as the Malatji ruling lineage in Phalaborwa). Importantly, there is no clear correlation between the level of political organisation and control over the metal production *chaîne opératoire*. While the ores and finished metal products formed part of localised and regional trade and exchange

networks, it appears that copper producers at Shankare could independently access both local and imported commodities from the Indian Ocean trading system. The available evidence from Shankare for both occupational periods not only indicates that producers were participating in wide exchange networks, but also that these were independent producers likely interacting with independent consumers. The mechanisms of exchange along which items like glass beads, copper, iron, and other commodities, circulated, as well as the uses and consumption of these items, also unsettles models of power and control in the Iron Age.

In addressing issues of resource control in the southern African Iron Age, it is important to consider different contexts. About 250 kilometres northwest of Phalaborwa lies Rooiberg (Fig. 11.1), a locality that is archaeologically well known as the site of large scale tin mining (Chirikure et al. 2010; Bandama 2013). The uniqueness of Rooiberg is derived from the observation that it is one of the only two known sources of the tin ore exploited in pre-colonial sub Saharan Africa. Available evidence suggests that nearly 2000 tonnes of tin ore were extracted from the Rooiberg tin deposit for over four centuries before the beginning of modern mining in the late 19th century. When smelted, the tin from Rooiberg was mixed with copper to produce bronze, an alloy that was primarily used for making objects of ornamental and ceremonial function. Recent geochemical work indicated that Rooiberg tin was distributed as far northeast as Great Zimbabwe, located more than three hundred kilometres away (Molofsky 2009). However, the quantity of tin smelting debris recorded in the Rooiberg region (Chirikure et al. 2010), does not fully account for the ores estimated to have been extracted from nearly a dozen of pre-colonial mines reported in the area. Apart from being ephemeral scatters of debris, the only site with concentrated amounts of production debris suggestive of large-scale production is Smelterskop (AD1650-1800). However this is atypical compared to the penumbra of small scale production around Rooiberg, with the majority of production taking place at small habitation sites located within a 30 to 40 kilometre radius of Rooiberg. This dispersal of evidence suggests that various groups of people accessed the tin ore resources to smelt in their home areas.

In eastern Botswana, the Dukwe (1450-1650 AD) and Thakadu (AD 1437 to 1682) mines (Fig. 11.1) produced considerable quantities of copper (Huffman et al. 1995; van Waarden 2012,

2014). Research at both Dukwe and Thakadu indicate that copper was processed in close proximity to the mining sites, and that the miners and smelters were possibly the same people, or closely linked. These copper mines were located on historically known trade routes, which linked this region to the salt pans to the west, gold mines in the Tati region, and the Torwa-Changamire state (AD 1450–1900) to the east (Pikirayi 2001; van Waarden 1998, 2012).

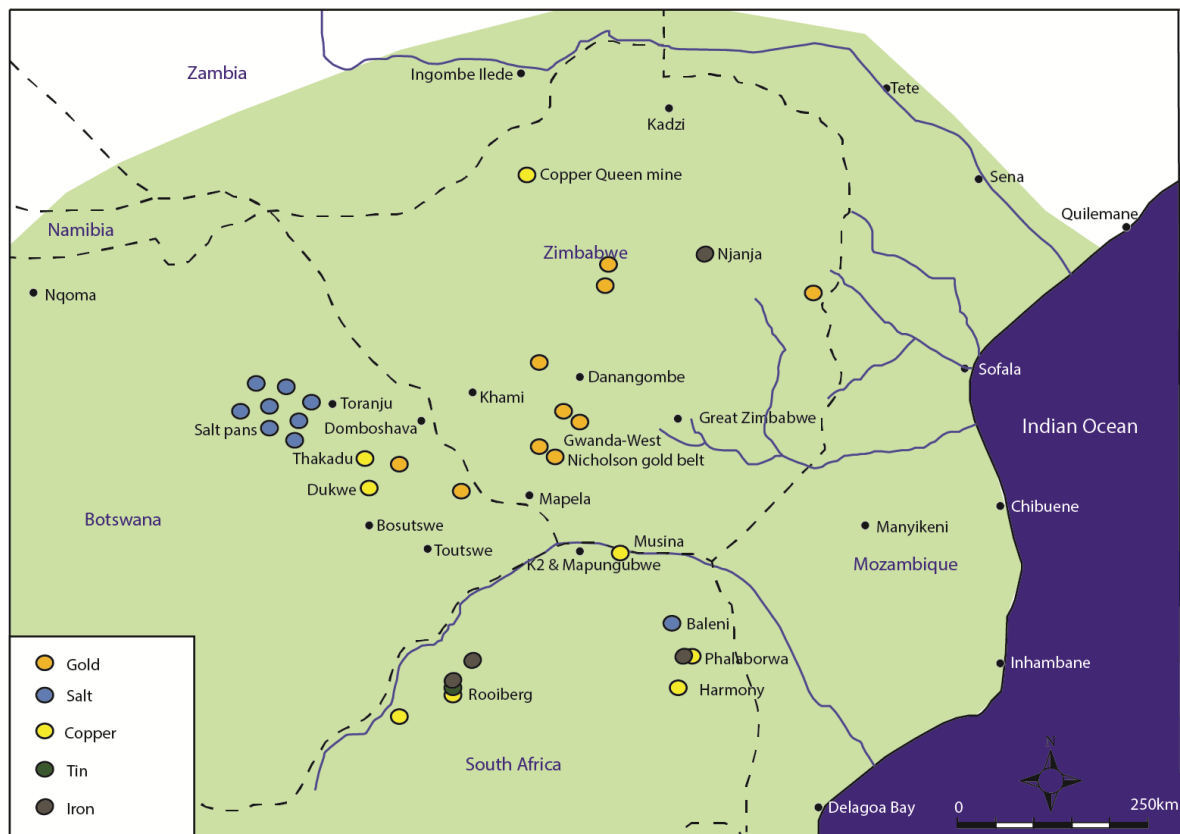


Fig. 11.1 The distribution of some of the mineral resources mentioned in the text.

Archaeological reconstructions of control in this period are supplemented by oral histories of the Torwa-Changamire state (Mudenge 1974, 1988). Historical records do not indicate direct control over production or exchange in the Torwa-Changamire state. Trade was not centralised or limited to the courts of provincial rulers, and there were no special market

days or places to conduct trade. Instead, exchange was facilitated by regional systems that integrated all levels of the community. Trade was further facilitated by *vashambadzi*, itinerant traders who would travel from village to village, bartering their merchandise (Mudenge 1974). *Vashambadzi* visited and traded directly at the mines in different regions of the Zimbabwean plateau (Bhila 1982; Mudenge 1988). Within the Torwa-Changamire state “*vashambadzi* traversed all that region, bartering for gold from village to village without necessarily ever visiting the Mambo’s court” (Mudenge 1974: 386). The reconstruction of a decentralised trading system in this period provides further archaeological evidence of independent, homestead-based copper producers located in close proximity to ore sources.

In contrast to copper and tin, the organisation of gold production is more challenging to reconstruct. Historically, gold mining was predominantly a seasonal activity, taking place between agricultural cycles in the dry season, and was an activity in which whole families and communities participated (Axelson 1969; Pikirayi 1993; Swan 1994; Chirikure 2015). Gold was likely mined from at least the terminal first millennium. Swan (1994: 57-58) has noted a large number of settlements within gold-producing areas. However, no homesteads have been studied or located in direct association with gold mining in eastern Botswana and across Zimbabwe (Swan 1994; van Waarden 2012: 230). Historical records of gold mining and trading from the Manyika region of Zimbabwe/Mozambique do not indicate centralised control over gold production. In the Manyika region, trade in gold between the *vashambadzi* and gold miners most likely happened at the gold-mining areas (Bhila 1982). Bhila (1982: 44) suggests that the *vashambadzi* may have taken their goods to the gold mines during the dry season, and spent the season camping there and exchanging goods. Control over the gold mines varied in time and space: at times, tribute was exacted; at other times, a portion of the trade was redeemed. However, Bhila (1982) argues that it seems clear that the regional political elites never demanded all the gold, nor held a monopoly over the trade. This indicates, as Swan (1994) suggested, that any control that regional political elites may have had over ore sources was more symbolic than actual.

While production in many regions of southern Africa clearly occurred on a specialised scale for regional exchange, the nature and scale of specialised production may vary from classic

examples of specialised metal production elsewhere. For example, in the Bassar region of Togo De Barros (1986, 1988) documented large slag mounds associated with 80 000 cubic meters of slag. In Meroe, the former Kush capital in the Sudan, Shinnie (1985) documented slag mounds of 50000 cubic meters of debris. This scale of production is not visible in the southern African Iron Age, indicating that production is contextually negotiated and contextually exhibited.

The above comparisons of resource exploitation in southern Africa indicate the variation in economic and political strategies in time and space by Iron Age communities. Key to understanding metal production within the regional political economy, particularly in terms of control, is the recognition that the organisation of production is embedded in the social context of society. Indeed the picture that emerges for the political economy in the southern African Iron Age is that of a decentralised economic system, in which access was not facilitated through centres of political power. In particular, control over production and exchange does not seem to have been a feature of power.

The implications of a decentralised political and economic system point towards the need to critically reevaluate conceptualisations of power relations in the southern African Iron Age. While hierarchical power relations, based on control over the production, exchange and consumption of economic resources such as copper, gold and imported items have strongly dominated reconstructions of the political economy of the 10-13th century, these do not fit within the evidence of both production, exchange and consumption in the period. Similarly, increasing evidence of multiple independent, urbanised polities in this period appears to indicate the existence of multiple, overlapping “centres” on the landscape (Chirikure et al. 2014, 2016a). Together with these observations this research indicates that the context of the southern African political economy in this period may likely have been organised heterarchically. The concept of heterarchy (after Crumley 1995) describes power relations in which power is counterpoised between many places on the landscape.

The framework of heterarchy also requires that power relations manifest in the political economy be approached from a different perspective, by considering the agency of producers and consumers within a heterarchical system in relation to each other. Doing so reveals that it may be the ways in which producers and consumers negotiated production

and exchange contexts and strategies that played a strong role in determining the overall structure of the political economy. Indeed this more adequately fits the variation in production, exchange and consumption strategies apparent in the archaeological record of the 10th to 13th century in the southern African Iron Age.

Within global archaeology, variations in production strategies highlight the contextually mediated conditions of production processes and the implications for this on the social organisation of the wider society. Research into the spatial patterning of crafting debris at Jenné-Jeno (AD 450–1200) in Mali revealed that different craft specialists lived in clustered settlements, alongside other possibly unrelated corporate groups. This facilitated a system of heterarchical power relations within an urban complex (McIntosh and McIntosh 1993; McIntosh 2005). Similarly in Pigott's (1998) study of copper mining at Phu Lon in northern Thailand (BC 2000–500), he demonstrated that mining was undertaken as part of corporate strategies, probably undertaken seasonally by communities travelling to the mine and camping there for some months. While evidence of large-scale mining such as at Phu Lon is often considered in terms of hierarchical control, in this case it took place within a heterarchical, decentralised society, and clearly corporate efforts can explain mining in this context.

Sinopoli's (2003) study of craft production within the southern Indian empire of Vijayanagara (AD 1300–1700) demonstrated the complexity and diversity of craft production strategies, which varied greatly even within the same crafting traditions. The organisation of craft production within the political economy of the Vijayanagara Empire was shaped by socio-political considerations, which ranged from population demographics to caste and class systems, as well as religion. These socio-political considerations were further reflected in the nature of power in the state, which was "heterogeneous and characterised by distributed authority" (Sinopoli 2003: 301). These studies similarly indicate that the construction of power relations within the dynamics of the political economy of past societies must also take cognisance of the strategies used by producers in relation to questions of control. Furthermore, specialised production, even in a complex society, may involve both household, independent producers, and workshop or attached producers, with no clear correlation between political power and the organisation of production.

11.6 Conclusions and future directions

This study of a small, localised production site has provided an opportunity to test and refine models of the political economy of southern Africa in the early second millennium AD, and the 18th and 19th centuries. The above discussion has sought to illustrate the problems with existing models of socio-political power in relation to production, exchange, and consumption. The application of conceptual frameworks drawn from elsewhere, such as the concept of the state widely utilised in global archaeology, have been influential in modelling the political economy in the Iron Age of southern Africa. However, critical interrogation of the application of such models in the southern African context indicates not only that they do not fit the local data, but also that they further obscure the nature of power relations in the regional political economy. Indeed, while models of ancient states have been dominated by particular conceptualisations of power, recent research into the mechanisms of power and economy in a variety of contexts indicate that the assumption of centralised state structures do not hold in many contexts (Stein 1998, 2007; Sinopoli 2003). Importantly in a number of contexts including southern Africa, complexity did not equate with hierarchical control.

One of the limitations of this study is the lack of comparable data from “peripheral”, “commoner” or sites located beyond areas conventionally associated with the state, like Phalaborwa. Further studies should address similar sites situated in regions both within and beyond areas associated with the “Zimbabwe culture”. Such a regional approach facilitates the reconstruction of economic strategies, trade, population movements, and environmental and subsistence strategies. This interrogation requires cross-scale, non-directional studies of regional networks (Knappett 2013). A review of a wide variety of sites dating to the terminal first millennium, ranging from the northern parts of South Africa to eastern Botswana and central and southern Zimbabwe, highlights the potential for further research in these regions (Garlake 1982; Manyanga 2006; Pwiti 1991; van Waarden 2011; Chirikure et al. 2013).

Furthermore, a study of the use and valuation of imports indicates the need to critically interrogate the entanglements between southern African communities and Indian Ocean trade networks (Stahl 2010). Future studies may address connections between the interior of southern Africa and coastal communities such as those occupying the Swahili coastal regions. Indeed preliminary observations indicate potentially interesting differences in the consumption of imports between coastal and inland communities (Wood 2012; Chirikure 2014; Coutu et al. 2016).

This study's consideration of metalworking at Shankare has situated copper production alongside the other technologies, activities, and practices that were scheduled at the site. Such an appreciation of technology recognises that other activities complemented, intersected and were scheduled in relation to metalworking. As Conkey and Spector (1984) have noted, archaeological research has often reinforced culturally specific views of gender, rather than interrogated, problematised or challenged conceptualisations of gender in the deeper past. Often activities are automatically linked to a particular sex, without any empirical evidence supporting such a link (Conkey and Spector 1984; Conkey and Gero 1997). Furthermore, ethnographically observed gender roles in southern Africa are often projected onto the deeper past without critical examination. As outlined above, it is neither historically nor archaeologically clear that the gendered division of labour was always structured along similar lines. Further studies into gender and metallurgy in the archaeological record should pursue these issues.

Finally, this study has indicated the challenges associated with recognising the archaeological identities of crafting communities in southern Africa. Future research should aim to further address these challenges and shortcomings by exploring new techniques and methodologies in archaeological studies of identity. For example, clay-processing strategies, often informed by particular techniques embedded in the cultural, can be interrogated using petrographic analysis of clay fabrics, tempering methods, and clay recipes (Bishop et al. 1982; Quinn 2010). Future research may address the potential technological styles represented in the Letaba and Kgopolwe facies. Given the widespread use of Letaba ceramics by many communities in the Lowveld historically, it may be possible that technological style relates to different producers. Furthermore, it may be of interest to

explore the technological identity associated with Lemba potters. Similarly, provenancing studies, such as lead isotopic analysis of copper objects, can further address the reconstruction of exchange relations between Iron Age communities by identifying the ore sources of copper objects (Molofsky et al. 2014). While copper *lerale* and *musuku* ingots have particular regional distributions, provenancing their production may be instrumental in further understanding the production and exchange mechanisms of these items.

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Appendix 1: Calibrated radiocarbon dates from Phalaborwa

Name	Age b.p.	2 sigma calibration (AD)		Period	Reference
		From	To		
R_Date Lolwe Mine Y-1636	1180+/-80	674	994	EIA (Kgopolwe)	van der Merwe and Scully 1971
R_Date Lolwe Mine Y-1635	950+/-60	990	1214	EIA (Kgopolwe)	Evers and van der Merwe 1987
R_Date Lolwe Mine GrN-4215	160+/-30	1664	...	EIA (Kgopolwe)	van der Merwe and Scully 1971
R_Date Kgopolwe (SPK3) Y-1638	960+/-80	899	1246	EIA (Kgopolwe)	Evers and van der Merwe 1987
R_Date Kgopolwe (SPK3) Y-1637	910+/-60	1019	1245	EIA (Kgopolwe)	Evers and van der Merwe 1987
R_Date Kgopolwe (SPK3) Y-1662	820+/-80	1031	1291	EIA (Kgopolwe)	Evers and van der Merwe 1987
R_Date Kgopolwe (SPK3) Y-1639	850+/-60	1040	1270	EIA (Kgopolwe)	Evers and van der Merwe 1987
R_Date Shankare Pta-4443	89+/-50	1053	1186	EIA (Kgopolwe)	Pistorius 1989
R_Date Nagome (MN3) Pta-267	785+/-36	1185	1282	EIA (Kgopolwe)	Evers and van der Merwe 1987
R_Date Kgopolwe (SPK3) Pta-338	720+/-45	1218	1389	EIA (Kgopolwe)	Evers and van der Merwe 1987
R_Date Kgopolwe (SPK3) Pta-566	680+/-45	1260	1397	EIA (Kgopolwe)	Miller et al. 2001
R_Date Nagome (MN3) Pta-568	690+/-45	1260	1397	EIA (Kgopolwe)	Evers and van der Merwe 1987
R_Date Kgopolwe (SPK4) Y-1657	520+/-60	1296	1466	LIA (Letaba)	Evers and van der Merwe 1987
R_Date Shankare Y-1766	290+/-80	1439	...	LIA (Letaba)	Mason 1968
R_Date Kgopolwe (SPK4) Y-1658	280+/-60	1454	...	LIA (Letaba)	Evers and van der Merwe 1987
R_Date Nagome (MN5) Pta-289	200+/-50	1530	...	LIA (Letaba)	Evers and van der Merwe 1987
R_Date Square (PQIM) Pta-2402	220+/-35	1529	...	LIA (Letaba)	Miller et al. 2001
R_Date Nareng Y-1767	160+/-60	1655	...	LIA (Letaba)	Mason 1968
R_Date Molotho Y-1661	60+/-120	1529	...	LIA (Letaba)	Evers and van der Merwe 1987
R_Date Kgopolwe (SPK5A) Pta-339	80+/-45	1680	1939	LIA (Letaba)	Evers and van der Merwe 1987
R_Date Nagome (MNI) Pta-567	110+/-40	1677	1940	LIA (Letaba)	Evers and van der Merwe 1987
R_Date Shankare Y-1769	90+/-60	1674	1942	LIA (Letaba)	Mason 1986
R_Date Matsepe (SPMI) Y-1660	80+/-60	1675	1942	LIA (Letaba)	Evers and van der Merwe 1987
R_Date Nareng GrN-4928	110+/-25	1682	1935	LIA (Letaba)	Mason 1968
R_Date KAL hill (MK3) Pta-290	85+/-40	1681	1938	LIA (Letaba)	Evers and van der Merwe 1987
R_Date Nagome (MN4) Pta-268	0+/-40	1694	1919	LIA (Letaba)	Evers and van der Merwe 1987

Appendix 2: Fauna from Shankare excavations

Site Shankare Provenance Midden 1 Square C2													
	Taxon (Common Name)	NISP	QSP	MNI	MASS	TEETH			SKELETAL PART				
LEVEL					(grams)	D	U	P	C	P-C	SCF	SAC	O
1	<i>Bos taurus</i> (cattle)	1	1	1	12	-	-	-	-	1	-	-	-
2	Bovid (Bov. II wild)	2	2	1	12	-	-	-	-	2	-	-	-
	Bovid (Bov. III wild)	2	2	1	52	-	-	-	-	2	-	-	-
	Tortoise	2	1	1	1.1	-	-	-	-	-	2	-	-
3	<i>Bos taurus</i>	1	1	1	25	-	-	-	-	1	-	-	-
	Tortoise	6	1	1	1.7	-	-	-	-	-	6	-	-
	Micromammal	1	1	1	0.3	-	-	-	-	1	-	-	-
4	<i>Aepyceros melampus</i> (impala)	8	6	1	47	-	-	-	-	8	-	-	-
	cf. <i>Aepyceros melampus</i>	1	1	1	18	-	-	-	-	1	-	-	-
	Bovid (Bov. III wild)	2	2	1	212	-	-	-	1	1	-	-	-
	Rodent	1	1	1	0.1	-	-	-	1	-	-	-	-
	Tortoise	7	1	1	15	-	-	-	-	-	7	-	-
5	Bovid (Bov. III wild)	1	1	1	17	-	-	-	-	1	-	-	-
	Bird (medium)	1	1	1	1.4	-	-	-	-	1	-	-	-
	Micromammal	2	2	2	0.3	-	-	-	-	2	-	-	-
	Rodent	2	1	1	0.3	-	-	-	2	-	-	-	-
	Tortoise	2	1	1	3.1	-	-	-	-	-	2	-	-
6	<i>Bos taurus</i> (cattle)	4	4	1	67	-	-	3	-	1	-	-	-
	<i>Ovis/Capra</i> (sheep/goat)	1	1	1	4	-	-	-	-	1	-	-	-
	c.f Rodent	1	1	1	0.1	-	-	-	-	1	-	-	-
	Tortoise	4	4	1	8.5	-	-	-	-	-	4	-	-
D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other													

Site Shankare Provenance Midden 1 Square C3													
	Taxon (Common Name)	NISP	QSP	MNI	MASS	TEETH			SKELETAL PART				
LEVEL					(grams)	D	U	P	C	P-C	SCF	SAC	O
2	<i>Aepyceros melampus</i> (impala)	7	7	1	35	-	-	6	1	-	-	-	-
	<i>Sylvicapra grimmia</i> (common duiker)	1	1	1	1.8	-	-	1	-	-	-	-	-
	c.f <i>Tragelaphus strepsiceros</i> (kudu)	1	1	1	6	-	-	-	-	1	-	-	-
	Bovid (Bov. III wild)	1	1	1	4.8	-	-	-	-	1	-	-	-
	Micromammal	1	1	1	0	-	-	-	-	1	-	-	-
	Tortoise	3	1	1	4.7	-	-	-	-	-	3	-	-
3	cf. <i>Bos taurus</i> (cattle)	2	2	1	12	-	-	-	-	2	-	-	-
	<i>Tragelaphus strepsiceros</i> (kudu)	2	2	1	21	-	-	-	-	2	-	-	-
	Bovid (Bov. III wild)	4	4	1	49	-	-	1	-	3	-	-	-
	cf. Bovid (Bov. III wild)	1	1	1	7.6	-	-	1	-	-	-	-	-
	Snake	1	1	1	5.3	-	-	-	-	1	-	-	-
	Rodent	2	2	1	0.2	-	-	-	-	2	-	-	-
	Tortoise	9	1	1	16	-	-	-	-	-	9	-	-
4	<i>Sylvicapra grimmia</i> (common duiker)	2	2	1	3.1	-	-	1	-	-	-	-	-
	<i>Bos taurus</i> (cattle)	1	1	1	16	-	-	1	-	-	-	-	-
	Bovid (Bov. III wild)	3	1	1	12	-	-	-	3	-	-	-	-
	Tortoise	2	1	1	2.5	-	-	-	-	-	2	-	-
5	<i>Oreotragus oreotragus</i> (klipspringer)	1	1	1	3.6	-	-	-	-	1	-	-	-
	cf. Bovid (Bov. III wild)	1	1	1	45	-	-	1	-	-	-	-	-
D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other													

Site Shankare Provenance Midden 1 Square D2													
LEVEL	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
						D	U	P	C	P-C	SCF	SAC	O
1	<i>cf. Tragelaphus strepsiceros</i> (kudu)	1	1	1	3.8	-	-	-	-	1	-	-	-
	<i>cf. Bos taurus</i> (cattle)	2	1	1	25	-	-	1	1	-	-	-	-
2	<i>Sylvicapra grimmia</i> (common duiker)	1	1	1	3	-	-	-	-	1	-	-	-
	Tortoise	3	1	1	1.7	-	-	-	-	-	3	-	-
3	<i>Tragelaphus strepsiceros</i> (kudu)	1	1	1	103	-	-	-	-	1	-	-	-
	Bovid (Bov. III wild)	3	3	1	52	-	-	-	-	3	-	-	-
	Bird (small/medium)	1	1	1	4.3	-	-	-	-	1	-	-	-
	Tortoise	1	1	1	3.1	-	-	-	-	-	1	-	-
4	Tortoise	1	1	1	0.4	-	-	-	-	-	1	-	-
D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other													

Site Shankare Provenance Midden 1 Square D3													
LEVEL	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
						D	U	P	C	P-C	SCF	SAC	O
1	Bovid (Bov. III wild)	1	1	1	4.4	-	-	-	-	1	-	-	-
	Micromammal	1	1	1	0.1	-	-	-	-	1	-	-	-
2	<i>Bos taurus</i>	2	2	1	15	-	-	-	-	2	-	-	-
	<i>cf. Tragelaphus strepsiceros</i> (kudu)	2	1	1	52	-	-	-	-	2	-	-	-
	Bovid (Bov. III wild)	1	1	1	6.2	-	-	-	-	1	-	-	-
	Bovid (Bov. IV wild)	1	1	1	44	-	-	-	-	1	-	-	-
	Bird (small)	1	1	1	0	-	-	-	-	1	-	-	-
	Bird (medium)	1	1	1	3.7	-	-	-	-	1	-	-	-
	Tortoise	2	1	1	1.4	-	-	-	-	-	2	-	-
3	<i>Ovis/Capra</i> (sheep/goat)	1	1	1	1.5	-	-	-	-	1	-	-	-
	<i>c.f Ovis/Capra</i>	1	1	1	5.3	-	-	-	-	1	-	-	-
	Bovid (Bov. II wild)	1	1	1	4.7	-	-	1	-	-	-	-	-
	<i>c.f Bovid</i> (Bov II wild)	1	1	1	0.4	-	-	1	-	-	-	-	-
	Bovid (Bov. III wild)	1	1	1	7.6	-	-	1	-	-	-	-	-
	Bird (small)	1	1	1	0.1	-	-	-	-	1	-	-	-
	Tortoise	7	1	1	11	-	-	-	-	-	7	-	-
	Rodent	2	2	1	0.1	-	-	-	-	2	-	-	-
	<i>c.f Rodent</i> (small)	1	1	1	0.2	-	-	-	-	1	-	-	-
4	<i>Sylvicapra grimmia</i> (common duiker)	3	3	1	13	-	-	2	1	-	-	-	-
	Bovid (Bov. II wild)	1	1	1	1.1	-	-	-	-	1	-	-	-
	Bovid (Bov. III wild)	1	1	1	8.9	-	-	-	-	1	-	-	-
	Bird (medium)	1	1	1	1.3	-	-	-	-	1	-	-	-
	Rodent	2	2	1	0.1	-	-	1	1	-	-	-	-
	Tortoise	3	1	1	7.1	-	-	-	-	-	3	-	-
5	Bovid (Bov. III wild)	2	2	1	52	-	-	-	1	1	-	-	-
	Bird (small)	1	1	1	0.1	-	-	-	-	1	-	-	-
	Tortoise	6	1	1	12	-	-	-	-	-	6	-	-
6	<i>Ovis/Capra</i> (sheep/goat)	1	1	1	17	-	-	-	-	1	-	-	-
	<i>Equus Quagga</i> (plains zebra)	1	1	1	42	-	-	1	-	-	-	-	-
	<i>Sylvicapra grimmia</i> (common duiker)	1	1	1	6.4	-	-	-	-	1	-	-	-
	Bovid (Bov. II wild)	1	1	1	4.6	-	-	-	1	-	-	-	-
	Bovid (Bov. III wild)	1	1	1	24	-	-	-	-	1	-	-	-
	Bird (small)	1	1	1	0.2	-	-	-	-	1	-	-	-
	Tortoise	1	1	1	0.6	-	-	-	-	-	1	-	-
D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other													

	Site Shankare	Provenance Midden 1 Square E2											
	Taxon (Common Name)	NISP	QSP	MNI	MASS	TEETH				SKELETAL PART			
LEVEL					(grams)	D	U	P	C	P-C	SCF	SAC	O
1	Bovid (Bov. III wild)	1	1	1	18	-	-	-	-	1	-	-	-
	Tortoise	1	1	1	1.2	-	-	-	-	-	1	-	-
2	<i>Ovis/Capra</i> (sheep/goat)	1	1	1	0.5	-	-	-	-	1	-	-	-
	<i>cf. Aepyceros melampus</i> (impala)	4	4	1	26	-	-	3	1	-	-	-	-
	Bovid (Bov. III wild)	1	1	1	1.4	-	-	-	-	1	-	-	-
	Tortoise	3	1	1	2.2	-	-	-	-	-	3	-	-
	Micromammal	2	2	2	0.1	-	-	-	-	2	-	-	-
3	<i>Sylvicapra grimmia</i> (common duiker)	7	7	1	11	-	-	6	1	-	-	-	-
	<i>Aepyceros melampus</i> (impala)	1	1	1	1.5	-	-	-	-	1	-	-	-
	<i>Bos taurus</i> (cattle)	1	1	1	9.4	-	-	-	-	1	-	-	-
	Micromammal	1	1	1	0	-	-	-	-	1	-	-	-
	Tortoise	4	1	1	16	-	-	-	-	-	4	-	-
4	<i>cf. Sylvicapra grimmia</i> (common duiker)	1	1	1	1.6	1	-	-	-	-	-	-	-
	Bovid (Bov. II wild)	1	1	1	2.8	-	-	-	-	1	-	-	-
	Micromammal	3	3	1	1	-	-	-	-	3	-	-	-
	Tortoise	3	1	1	2.8	-	-	-	-	-	3	-	-
5	<i>Bos taurus</i> (cattle)	1	1	1	15	-	-	-	-	1	-	-	-
	<i>cf. Tragelaphus strepsiceros</i> (kudu)	1	1	1	13	-	-	-	-	1	-	-	-
	Tortoise	1	1	1	1.1	-	-	-	-	-	1	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare	Provenance Midden 1 Square E3											
	Taxon (Common Name)	NISP	QSP	MNI	MASS	TEETH				SKELETAL PART			
LEVEL					(grams)	D	U	P	C	P-C	SCF	SAC	O
1	<i>Oreotragus oreotragus</i> (klipspringer)	1	1	1	2.7	-	-	-	-	1	-	-	-
	Bovid (Bov. II wild)	2	2	1	4.4	-	-	-	-	2	-	-	-
	Bovid (Bov. III wild)	1	1	1	7.5	-	-	1	-	-	-	-	-
	Bird (small)	1	1	1	0.1	-	-	-	-	1	-	-	-
2	<i>Aepyceros melampus</i> (impala)	1	1	1	8.1	-	-	-	-	1	-	-	-
	Bovid (Bov. I wild)	2	1	1	2.1	-	-	-	-	2	-	-	-
	Bird (medium)	2	1	1	4.4	-	-	-	-	2	-	-	-
	Tortoise	2	1	1	1.3	-	-	-	-	-	2	-	-
3	<i>Aepyceros melampus</i> (impala)	1	1	1	12	-	-	-	-	1	-	-	-
	Bovid (Bov. III wild)	3	3	1	141	-	-	-	-	3	-	-	-
	Rodent	5	3	2	0.3	-	-	1	2	2	-	-	-
	Tortoise	3	1	1	3.8	-	-	-	-	-	3	-	-
4	<i>Oreotragus oreotragus</i> (klipspringer)	1	1	1	0.1	-	-	1	-	-	-	-	-
	<i>Ovis/Capra</i> (sheep/goat)	1	1	1	8	-	-	-	-	1	-	-	-
	Bovid (Bov. I wild)	1	1	1	0.9	-	-	1	-	-	-	-	-
	Bovid (Bov. III wild)	1	1	1	14	-	-	-	-	1	-	-	-
	Carnivore (small)	1	1	1	0.5	-	-	-	1	-	-	-	-
	Micromammal	2	1	1	0.1	-	-	-	-	2	-	-	-
	Rodent	1	1	1	0.2	-	-	-	1	-	-	-	-
	Tortoise	3	2	1	2.9	-	-	-	-	1	2	-	-
5	Tortoise	4	3	1	29	-	-	-	-	2	2	-	-
6	Bovid (Bov. III wild)	1	1	1	1.9	-	-	-	1	-	-	-	-
	c.f Rodent	1	1	1	0.2	-	-	-	-	1	-	-	-
	c.f Mouse	1	1	1	0.1	-	-	-	-	1	-	-	-
	Tortoise	1	1	1	2.6	-	-	-	-	-	1	-	-
7	Tortoise	1	1	1	2.1	-	-	-	-	-	1	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare	Provenance Midden 1 Square F2											
	Taxon (Common Name)	NISP	QSP	MNI	MASS	TEETH				SKELETAL PART			
LEVEL					(grams)	D	U	P	C	P-C	SCF	SAC	O
1	Bovid (Bov. II wild)	1	1	1	1.1	-	-	-	1	-	-	-	-
	c.f <i>Procavia capensis</i> (rock hyrax)	1	1	1	0.3	-	-	-	-	1	-	-	-
	Tortoise	6	1	1	6.2	-	-	-	-	-	6	-	-
2	<i>Ovis/Capra</i> (sheep/goat)	4	4	1	27	-	-	-	-	4	-	-	-
	<i>Bos taurus</i> (cattle)	2	2	1	18	-	-	-	-	2	-	-	-
	<i>Oreotragus oreotragus</i> (klipspringer)	1	1	1	4.9	-	-	-	-	1	-	-	-
	<i>Tragelaphus strepsiceros</i> (kudu)	1	1	1	7.5	-	-	-	-	1	-	-	-
	<i>Aepyceros melampus</i> (impala)	2	2	1	1.3	-	-	2	-	-	-	-	-
	Bovid (Bov. I wild)	1	1	1	0.5	-	-	-	-	1	-	-	-
	Bovid (Bov. II wild)	9	5	1	14	-	-	-	2	7	-	-	-
	Bovid (Bov. III wild)	4	3	1	35	-	-	-	2	2	-	-	-
	Micromammal	5	2	1	1	-	-	-	3	2	-	-	-
	Lizzard	1	1	1	0	-	-	-	1	-	-	-	-
	Tortoise	16	2	1	8.9	-	-	-	-	1	15	-	-
	Bird (small)	1	1	1	3.3	-	-	-	-	1	-	-	-
3	<i>Sylvicapra grimmia</i> (common duiker)	2	2	1	2.9	-	-	1	-	1	-	-	-
	<i>Oreotragus oreotragus</i> (klipspringer)	5	5	5	8.3	-	-	3	1	1	-	-	-
	cf. <i>Oreotragus oreotragus</i> (klipspringer)	7	7	1	7	-	-	6	1	-	-	-	-
	cf. <i>Tragelaphus strepsiceros</i> (kudu)	1	1	1	84	-	-	-	-	1	-	-	-
	<i>Ovis/Capra</i> (sheep/goat)	2	2	1	9.7	-	-	-	-	2	-	-	-
	Bovid (Bov. I wild)	1	1	1	6.7	-	-	-	1	-	-	-	-
	Bovid (Bov. II wild)	2	1	1	5.7	-	-	-	-	2	-	-	-
	Bovid (Bov. III wild)	3	3	3	29	-	-	-	-	3	-	-	-
	Tortoise	19	1	1	26	-	-	-	-	-	19	-	-
	Bird (small)	4	3	1	1.8	-	-	-	-	-	4	-	-
4	<i>Bos taurus</i> (cattle)	2	2	1	49	-	-	-	-	2	-	-	-
	cf. <i>Aepyceros melampus</i> (impala)	1	1	1	7.9	-	-	-	-	1	-	-	-
	Micromammal	8	6	1	0.4	-	-	1	1	6	-	-	-
	Tortoise	1	1	1	0.8	-	-	-	-	-	1	-	-
5	c.f Lizard	2	2	1	0	-	-	-	1	1	-	-	-
	Rodent	1	1	1	0.1	-	-	-	1	-	-	-	-
6	<i>Bos taurus</i> (cattle)	1	1	1	60	-	-	-	-	1	-	-	-
	Bovid (Bov. I wild)	1	1	1	0.2	-	-	1	-	-	-	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare	Provenance Midden 1 Square F3											
	Taxon (Common Name)	NISP	QSP	MNI	MASS	TEETH				SKELETAL PART			
LEVEL					(grams)	D	U	P	C	P-C	SCF	SAC	O
1	Bovid (Bov. III wild)	3	3	1	41	-	-	-	1	2	-	-	-
	Bovid (Bov. II/III wild)	1	1	1	4.8	-	-	-	-	1	-	-	-
	Micromammal	12	4	2	0.9	-	-	-	-	12	-	-	-
	Rodent	2	2	1	0.1	-	-	1	1	-	-	-	-
	Tortoise	4	1	1	2.5	-	-	-	-	-	4	-	-
2	<i>Aepyceros melampus</i> (impala)	6	5	1	38	-	-	5	1	-	-	-	-
	<i>Sylvicapra grimmia</i> (common duiker)	1	1	1	4.8	-	-	-	-	1	-	-	-
	cf. <i>Raphicerus melanotis</i> (cape grysbok)	2	2	1	4.2	-	-	-	-	2	-	-	-
	<i>Ovis/Capra</i> (sheep/goat)	2	2	1	3.2	-	-	-	-	2	-	-	-
	Bovid (Bov. I wild)	1	1	1	2.7	-	-	-	-	1	-	-	-
	Bovid (Bov. II wild)	1	1	1	6.7	-	-	-	-	1	-	-	-
	Bovid (Bov. III wild)	1	1	1	13	-	-	-	-	1	-	-	-
	c.f <i>Syncerus caffer</i> (buffalo)	1	1	1	30	-	-	-	-	1	-	-	-
	Tortoise	4	1	1	6.4	-	-	-	-	-	4	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare	Provenance Hut 1 West side, A2											
	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
LEVEL						D	U	P	C	P-C	SCF	SAC	O
2	Bovid (Bov. III wild)	3	2	1	20	-	-	-	-	3	-	-	-
	Tortoise	3	1	1	8.5	-	-	-	-	-	3	-	-
3	<i>Bos taurus</i> (cattle)	4	3	1	98	-	-	-	-	4	-	-	-
	Bovid (Bov. III wild)	1	1	1	66	-	-	-	-	1	-	-	-
	<i>Tragelaphus strepsiceros</i> (kudu)	1	1	1	18	-	-	-	-	1	-	-	-
	Micromammal	1	1	1	0.8	-	-	-	-	1	-	-	-
4	<i>Tragelaphus strepsiceros</i> (kudu)	1	1	1	2.2	-	-	1	-	-	-	-	-
	Bovid (Bov. III wild)	1	1	1	1.9	-	-	-	-	1	-	-	-
	Tortoise	3	3	1	10	-	-	-	-	2	1	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare	Provenance Hut 1 West side, B2											
	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
LEVEL						D	U	P	C	P-C	SCF	SAC	O
1	Bovid (Bov. II wild)	1	1	1	2.6	-	-	-	-	1	-	-	-
2	<i>Bos taurus</i> (cattle)	1	1	1	14	-	-	-	-	1	-	-	-
	Bovid (Bov. III wild)	1	1	1	5.9	-	-	-	-	1	-	-	-
	Micromammal	1	1	1	0.2	-	-	-	-	1	-	-	-
	Tortoise	3	1	1	14	-	-	-	-	-	3	-	-
3	Bovid (Bov. I wild)	1	1	1	29	-	-	-	-	1	-	-	-
	Bovid (Bov. III wild)	1	1	1	18	-	-	-	-	1	-	-	-
	Bird (medium)	1	1	1	1.6	-	-	-	-	1	-	-	-
4	Bovid (Bov. III wild)	1	1	1	19	-	-	-	-	1	-	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare	Provenance Terrace 1, Square A											
	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
LEVEL						D	U	P	C	P-C	SCF	SAC	O
1	<i>Oreotragus oreotragus</i> (klipspringer)	1	1	1	1.9	-	-	-	-	1	-	-	-
	<i>Sylvicapra grimmia</i> (common duiker)	1	1	1	1.6	-	-	1	-	-	-	-	-
	<i>Ovis/Capra</i> (sheep/goat)	1	1	1	2.5	-	-	-	-	1	-	-	-
	Bovid (Bov. I wild)	2	1	1	4.9	-	-	-	2	-	-	-	-
	Bovid (Bov. II wild)	1	1	1	1.6	-	-	-	-	1	-	-	-
	Bird (medium)	1	1	1	0.7	-	-	-	-	1	-	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare	Provenance Terrace 1, Square B											
	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
LEVEL						D	U	P	C	P-C	SCF	SAC	O
1	<i>Sylvicapra grimmia</i> (common duiker)	1	1	1	2.1	-	-	-	-	1	-	-	-
	<i>Aepyceros melampus</i> (impala)	1	1	1	4.3	-	-	1	-	-	-	-	-
	Bovid (Bov. II wild)	2	2	1	11	-	-	-	-	2	-	-	-
	Fish	1	1	1	0.7	-	-	-	-	1	-	-	-
	Micromammal	1	1	1	1.4	-	-	-	-	1	-	-	-
	Crab	1	1	1	0.7	-	-	-	-	-	-	1	-
	Rodent	2	2	1	0.6	-	-	-	2	-	-	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

Site Shankare Provenance Terrace 2, Square A1													
LEVEL	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
						D	U	P	C	P-C	SCF	SAC	O
1	Bovid (Bov. II wild)	2	2	1	14	-	-	-	-	2	-	-	-
	Micromammal	1	1	1	0.5	-	-	-	-	1	-	-	-
	Tortoise	6	1	1	4	-	-	-	-	-	6	-	-
2	Bovid (Bov. II wild)	1	1	1	2.4	-	-	-	-	1	-	-	-
	Tortoise	1	1	1	0.7	-	-	-	-	-	1	-	-
D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other													

Site Shankare Provenance Terrace 2, Square A2-A5													
LEVEL	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
						D	U	P	C	P-C	SCF	SAC	O
1	<i>Raphicerus campestris</i> (steenbok)	1	1	1	3.9	-	-	-	-	1	-	-	-
	<i>Equus Quagga</i> (plains zebra)	1	1	1	20	-	-	-	-	1	-	-	-
	<i>Sylvicapra grimmia</i> (common duiker)	1	1	1	2.1	-	-	1	-	-	-	-	-
	Bovid (Bov. II wild)	1	1	1	3.2	-	-	1	-	-	-	-	-
	Bovid (Bov. III wild)	2	2	1	29	-	-	2	-	-	-	-	-
	Bird (medium)	1	1	1	1	-	-	-	-	1	-	-	-
	Tortoise	1	1	1	0.2	-	-	-	-	-	1	-	-
2	<i>Bos taurus</i> (cattle)	1	1	1	27	-	-	1	-	-	-	-	-
	Bird (small)	2	2	1	2.5	-	-	-	-	2	-	-	-
	Bird (medium)	1	1	1	1.6	-	-	-	-	1	-	-	-
D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other													

Site Shankare Provenance Test Pit 1, Square A1													
LEVEL	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
						D	U	P	C	P-C	SCF	SAC	O
3	Bovid (Bov. I wild)	1	1	1	0.7	-	-	-	-	1	-	-	-
	Bovid (Bov. III wild)	1	1	1	3.9	-	-	-	-	1	-	-	-
	Tortoise	2	1	1	0.5	-	-	-	-	-	2	-	-
5	<i>Bos taurus</i> (cattle)	1	1	1	8.8	-	-	-	-	1	-	-	-
	Bovid (Bov. III wild)	1	1	1	8.4	-	-	-	-	1	-	-	-
6	<i>Aepyceros melampus</i> (impala)	7	7	1	11	-	-	6	1	-	-	-	-
	Bovid (Bov. I wild)	2	2	1	0.9	-	-	-	-	2	-	-	-
	Bovid (Bov. II wild)	3	1	1	4.6	-	-	-	3	-	-	-	-
	Bird (medium)	1	1	1	5.5	-	-	-	-	1	-	-	-
	Rodent	4	4	1	0.4	-	-	3	1	-	-	-	-
D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other													

Site Shankare Provenance Test Pit 1, Square B1													
LEVEL	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
						D	U	P	C	P-C	SCF	SAC	O
2	Duiker	2	2	1	4.2	-	-	-	-	2	-	-	-
	Bovid (Bov. II wild)	1	1	1	4.4	-	-	1	-	-	-	-	-
	Bovid (Bov. III wild)	1	1	1	35	-	-	-	1	-	-	-	-
3	<i>Ovis/Capra</i> (sheep/goat)	1	1	1	1.4	-	-	1	-	-	-	-	-
5	Bovid (Bov. III wild)	1	1	1	7.4	-	-	-	-	1	-	-	-
	Tortoise	1	1	1	0.7	-	-	-	-	1	-	-	-
6	<i>Ovis/Capra</i> (sheep/goat)	7	7	1	13	-	-	7	1	-	-	-	-
	Bird (small)	2	1	1	1.2	-	-	-	-	2	-	-	-
D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other													

	Site Shankare	Provenance Burrow Pit, Square D1											
	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
LEVEL						D	U	P	C	P-C	SCF	SAS	O
Above ash	Bovid (Bov. III wild)	2	2	1	1.4	-	-	1	1	-	-	-	-
	<i>Ovis/Capra</i> (sheep/goat)	1	1	1	1.4	-	-	-	-	1	-	-	-
	cf. <i>Bos taurus</i> (cattle)	1	1	1	20	-	-	1	-	-	-	-	-
	Bird (medium)	1	1	1	0.9	-	-	-	-	1	-	-	-
	Tortoise	1	1	1	1	-	-	-	-	-	1	-	-
Below ash	<i>Ovis/Capra</i> (sheep/goat)	1	1	1	4.5	-	-	-	-	1	-	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare	Provenance Burrow Pit, Square D2											
	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
LEVEL						D	U	P	C	P-C	SCF	SAS	O
Below ash	Bovid (Bov. III wild)	1	1	1	5.3	-	-	-	-	1	-	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare	Provenance Burrow Pit, Square E1											
	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
LEVEL						D	U	P	C	P-C	SCF	SAS	O
Below ash	<i>Bos taurus</i> (cattle)	1	1	1	45	-	-	-	-	1	-	-	-
	<i>Oreotragus oreotragus</i> (klipspringer)	1	1	1	4.6	-	-	-	-	1	-	-	-
	Bovid (Bov. II wild)	1	1	1	6.4	-	-	-	-	1	-	-	-
	Bovid (Bov. III wild)	7	6	1	88	-	-	5	1	1	-	-	-
	Tortoise	5	5	1	4.5	-	-	-	-	5	-	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare	Provenance Burrow Pit, Square E2											
	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
LEVEL						D	U	P	C	P-C	SCF	SAC	O
Above ash	Bovid (Bov. I wild)	1	1	1	2.5	-	-	-	-	1	-	-	-
Below ash	<i>Bos taurus</i> (cattle)	4	4	1	51	-	-	1	-	3	-	-	-
	cf. <i>Aepyceros melampus</i> (impala)	1	1	1	14	-	-	-	-	1	-	-	-
	<i>Oreotragus oreotragus</i> (klipspringer)	4	4	1	3.8	-	-	3	1	-	-	-	-
	Bovid (Bov. III wild)	5	4	1	62	-	-	1	-	4	-	-	-
	Bird (medium)	3	2	1	5.4	-	-	-	-	3	-	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare Provenance Burrow Pit, Square F1												
	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
LEVEL						D	U	P	C	P-C	SCF	SAC	O
Ash layer	<i>Bos taurus</i> (cattle)	1	1	1	27	-	-	1	-	-	-	-	-
	Bovid (Bov. III wild)	4	4	1	106	-	-	1	-	3	-	-	-
	Tortoise	1	1	1	3.9	-	-	-	-	-	1	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												

	Site Shankare Provenance Burrow Pit, Talus collapse												
	Taxon (Common Name)	NISP	QSP	MNI	MASS (grams)	TEETH			SKELETAL PART				
LEVEL						D	U	P	C	P-C	SCF	SAC	O
	Bovid (Bov. III wild)	2	2	1	44	-	-	-	1	1	-	-	-
	D = Deciduous; U = Unerupted; P = Permanent; C = Cranial; P-C = Postcranial; SCF = Shell/Carapace fragments; SAC = Shell/Apexes/Columellae; O = Other												